Modern LITHOGRAPHY

this issue

- Web-Offset Reappraised
- LTF Star Target
- Story of Phillip Litho
- SOP for Stripping
- Craftsmen Meeting In Chicago
- NAPL Plans Program
- Offset for Newspapers

AUGUST, 1961

For Quality in Volume...

Schirmer Music Selects **GEVAERT**

One of the world's largest music publishers, Schirmer's yearly offset printing output is estimated at 140 million pages of music. In an operation of this size, production costs must be kept at a minimum. *Problem:* to find a film economical enough for big-volume printing, precise enough to reproduce hairline detail. *Gevaert's answer:* **Copyline O 71m Film** (base thickness .004")

Schirmer finds that **Copyline's** high orthochromatic emulsion gives razor-sharp detail reproduction by camera or contact. A *"must"* when copy consists of proofs of meticulous fine line hand engravings, as in Schirmer's case. *Yet you pay no premium for this super-precise film!*

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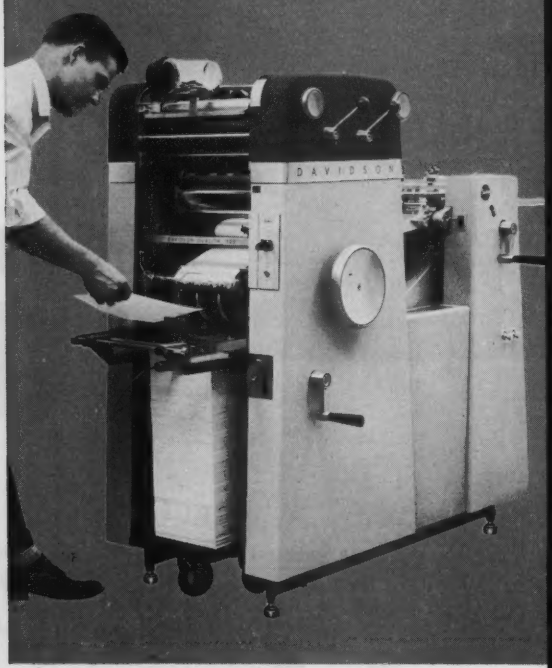
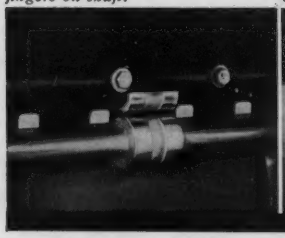
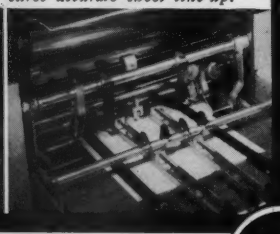
Top-quality registration & built-in chain delivery



Upper and lower steel feed rollers showing wide stop-fingers on shaft.



Straight tape conveyor board jogs either left or right, assures accurate sheet line-up.



are two more features of the new **DAVIDSON DUALITH 500**

For accuracy of registration the new Dualith 500 has no equal.

This is made possible by a unique combination of features: the straight tape conveyor board (which jogs either right or left); the heavy, rugged, steel feed rolls, both upper and lower, which are self-adjusting for all thicknesses of paper stock; the wide steel stop-fingers which are integral with the lower feed roll; and the satin smooth acceleration of the entire feed roll mechanism which delivers each sheet accurately to the stops in the gripper bar.

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Subsidiary of Mergenthaler Linotype Co.

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MODERN LITHOGRAPHY

Vol. 29, No. 8 August, 1961

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Cover

Wall panel composed of lithograph stones used by the company years ago makes a striking backdrop in the handsomely appointed conference room of Phillip Lithographing Co. For picture story on the firm, turn to page 25.

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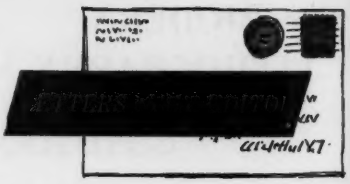

Seeks Navigraphic Report

Dear Sir:

In the April issue of *Modern Lithography* you mentioned on page 55 the "Fourth Annual Graphic Arts Progress Report," held in New York, on March 18.

As we would like to get proceedings of this meeting we kindly request you to send us the address of the organization sponsoring this program.

G. van Beusekom
Public Printer of the Netherlands
The Hague

We suggest that you contact Walter Douglas Munro, New Era Letter Co., 495 Broadway, New York, N. Y. for information about proceedings of the "Navigraphic '61" program. Mr. Munro is president of the Navigators, which annually sponsors this program.—Editor.

Printing Courses

Dear Sir:

I would like to know the names of any southern colleges and universities which give BS degrees in printing. There is a young man who I believe would be interested if he could go to a southern school. I am primarily interested in schools giving degrees and not just trade schools.

(*Continued on Page* 53)

MEETINGS

International Association of Printing House Craftsmen, 42nd annual convention, Palmer House, Chicago, Aug. 6-9.

National Association of Photo-Lithographers, 29th annual convention and exhibit, Hotel Commodore, New York, Sept. 27-30.

Printing Industry of America, 75th annual convention, Statler-Pittsburgh Hotel, Pittsburgh, Oct. 8-13.

National Metal Decorators Association, annual convention, Sheraton Towers, Chicago, Oct. 16-18.

Lithographic Technical Foundation, annual Education, Members, Directors Meetings, Sheraton-Blackstone Hotel, Chicago, March 19-22, 1962.

Lithographers and Printers National Association, annual convention, The Homestead, Hot Springs, Va., April 2-5, 1962.

National Association of Litho Clubs, 17th annual convention, Miami, May 31-June 3, 1962.

Technical Association of the Graphic Arts, 14th annual meeting, Hotel Radisson, Minneapolis, June 11-13, 1962.

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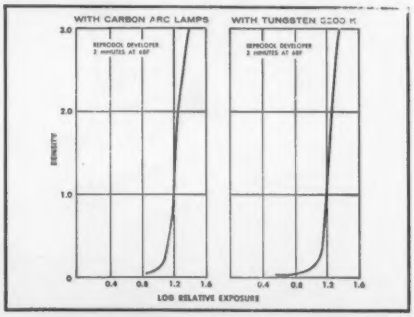

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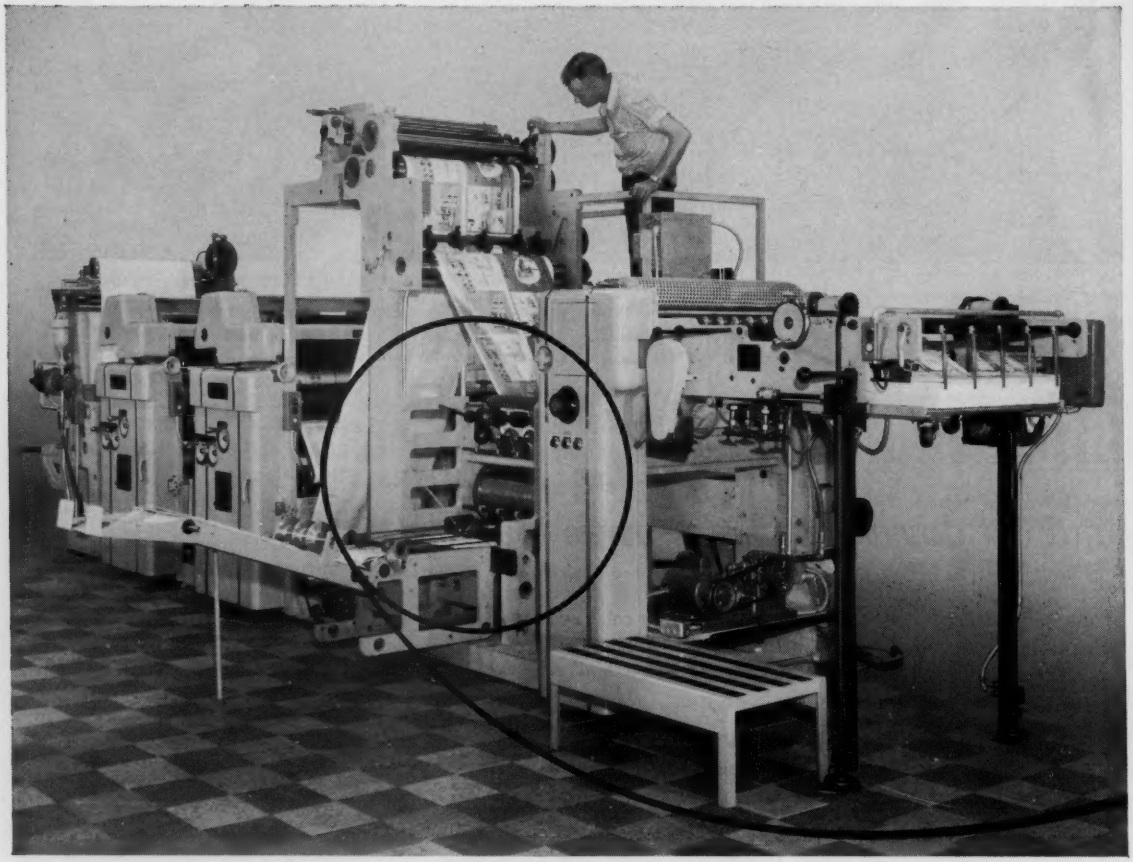
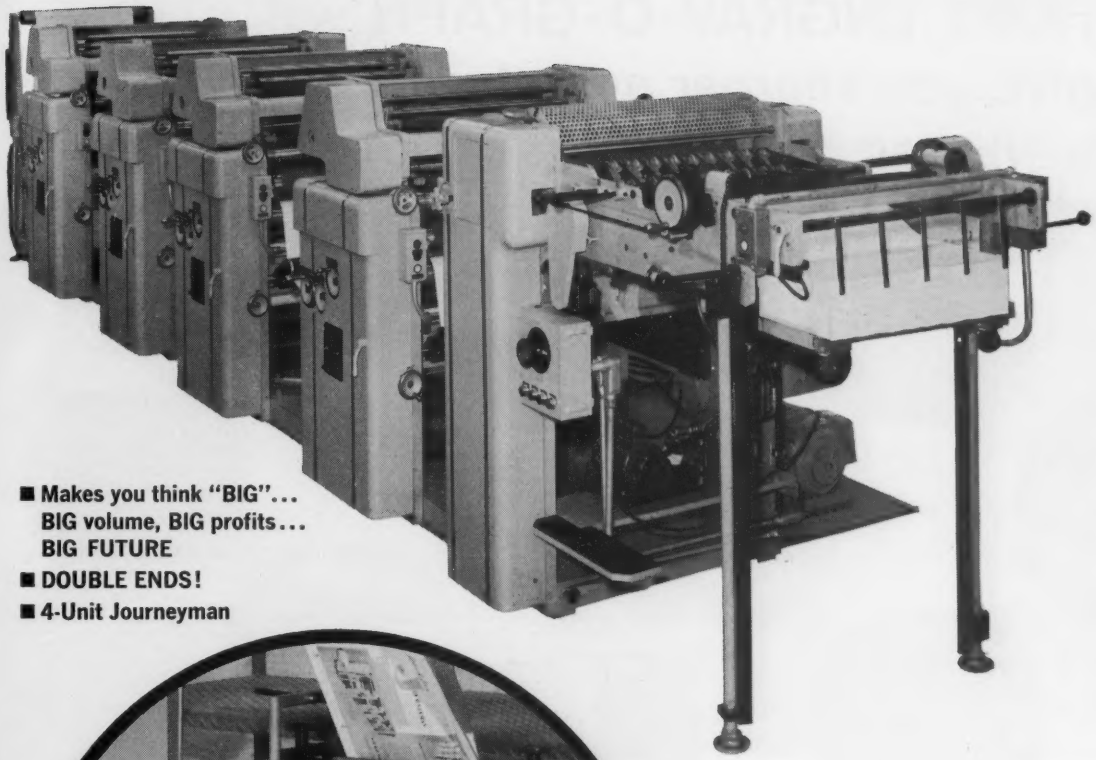


Presses can be ordered with 2, 3, 4, 5 or 6 printing units.

Standard Journeyman presses are available in 26" web widths with cylinder circumference sizes of 17, 17½, 21, 22, and 22½". Other sizes manufactured to your custom requirements. Dryers available for all sizes.



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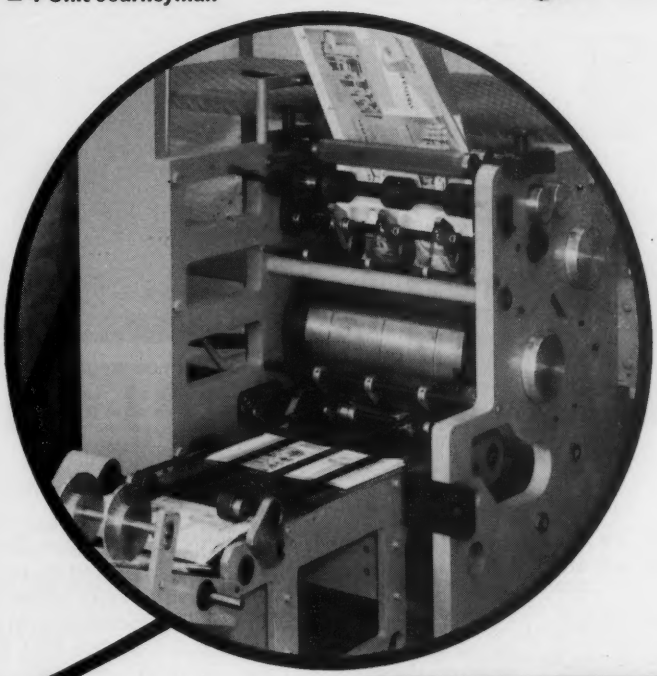
- **DOUBLE ENDS!**
- **4-Unit Journeyman**



The folder, shown as part of the 2-unit Speed-Flex Journeyman web offset press on the left, encompasses a former, 2 to 1 ratio jaw and tuck as well as a chopper or quarter folder for producing publication signatures and other folded products. The unit is designed to handle multiple webs of paper.

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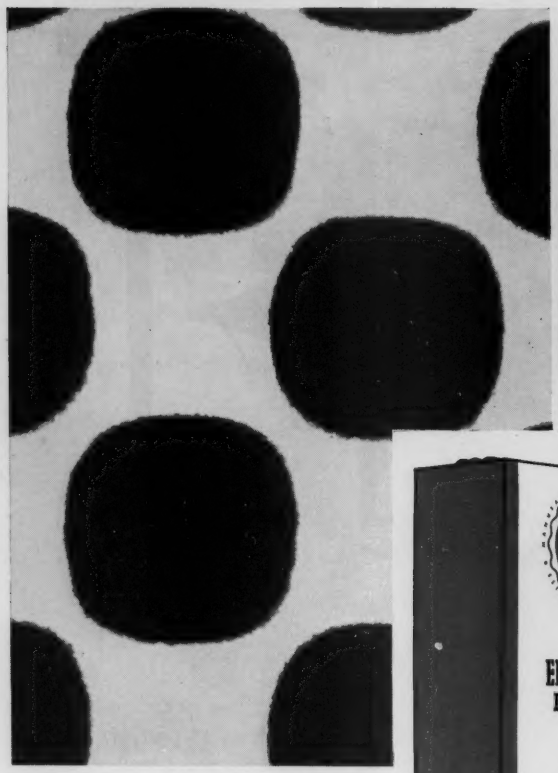
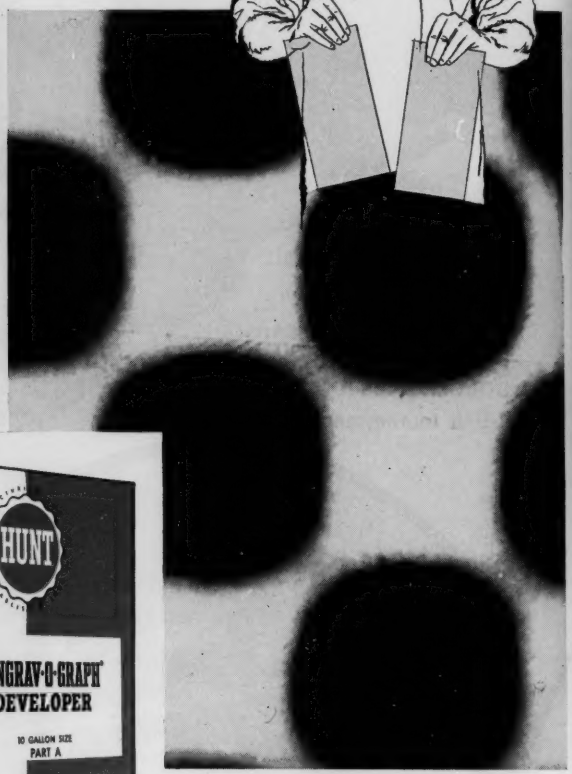


Engrav-O-Graph Developed Negative

Unretouched photomicrographs (magnified 150 times) of two halves of a test film exposed through a 133 line screen



"X" Brand Developed Negative

of a standard gray scale. Both halves were developed for 2¼ minutes at 68°F. Note the complete absence of halation in the film developed in Engrav-O-Graph.

Make this simple test

1 Order a carton of Engrav-O-Graph, on the money-back guarantee. Make up a solution according to directions.

2 On your next camera job, shoot an extra negative for your test.

3 Cut the negative in half, notch for identification, then run one half through your regular developer, one half through the Engrav-O-Graph developer. Keep time and temperature the same for both developers.

4 Fix and dry both test strips the same way. Then rejoin the negatives on your light table and examine the dots in identical areas with the most powerful magnifying glass you have. The microphotographs above show you what to look for. Notice that the shadow dots are harder, the highlight dots are cleaner and sharper in the Engrav-O-Graph developed portion of the negative.

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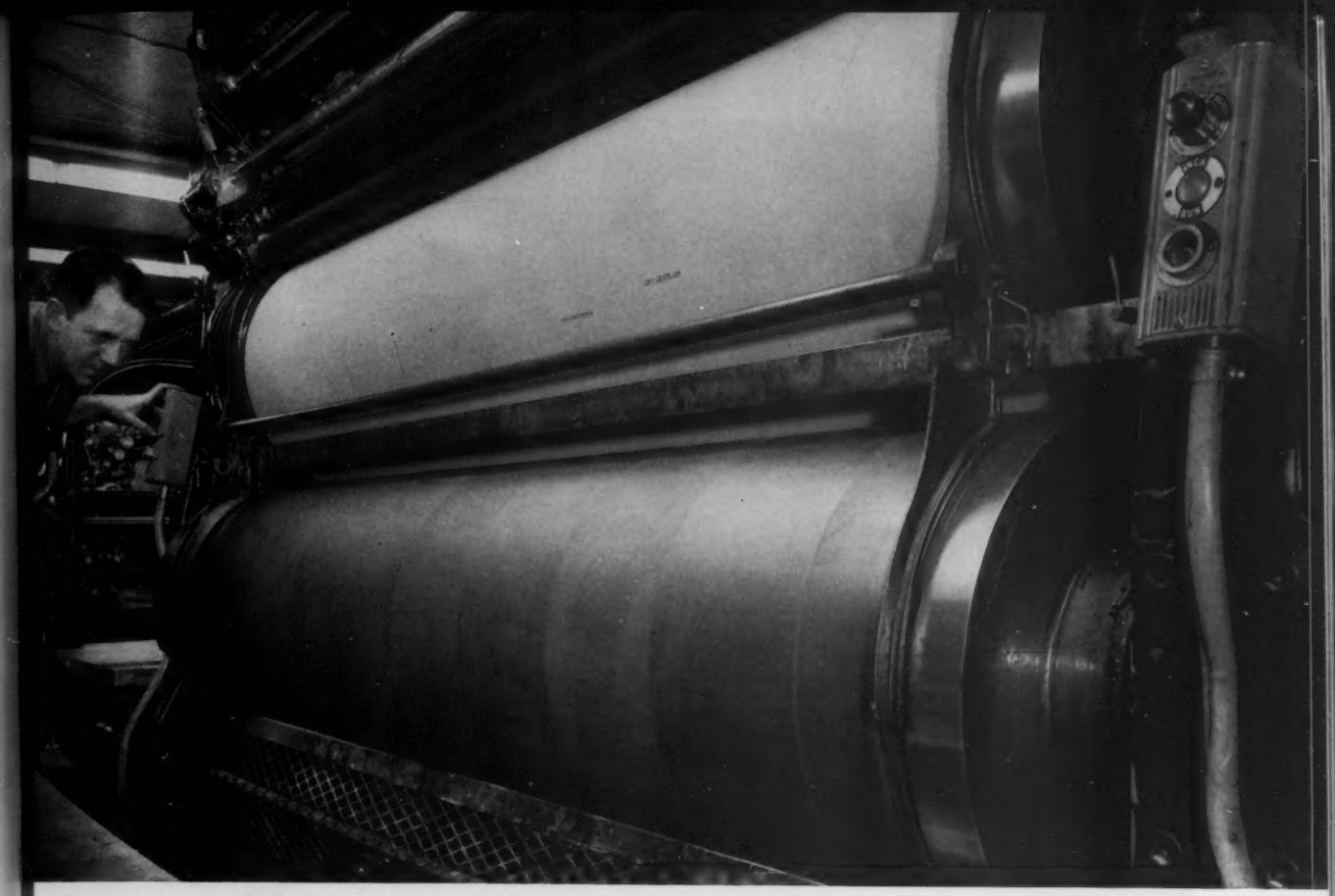

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Dayco Tru-Face Rollers are unaffected by seasonal weather changes or internal heat build-up, maintaining their exact dimensions at all times. In addition, they are virtually non-porous and have an ultra-smooth finish, reducing wash-up time to an absolute minimum . . . with no chance of bleed back. ®Registered T.M., Dayco Corporation. ©D.C. 1960

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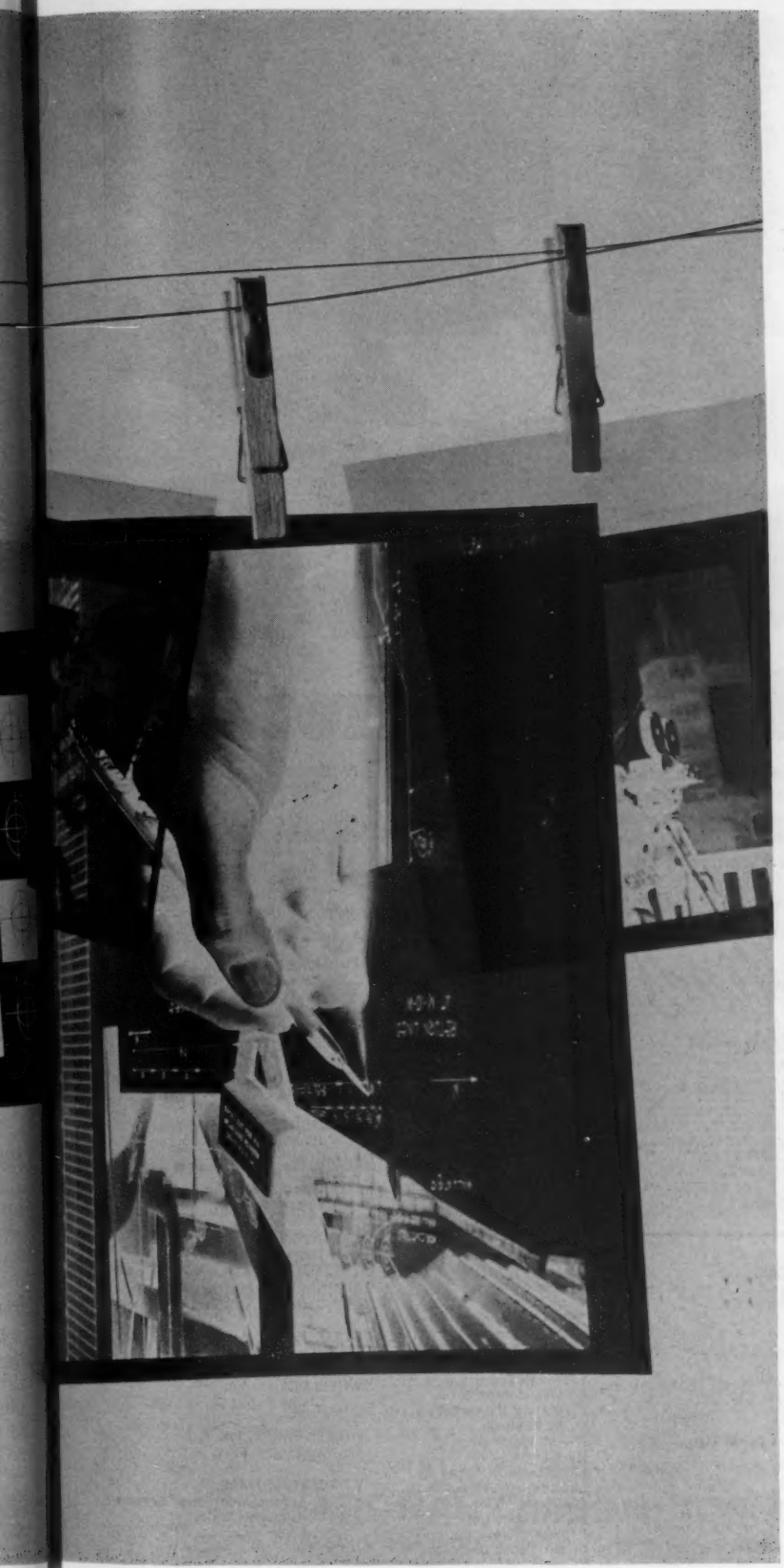

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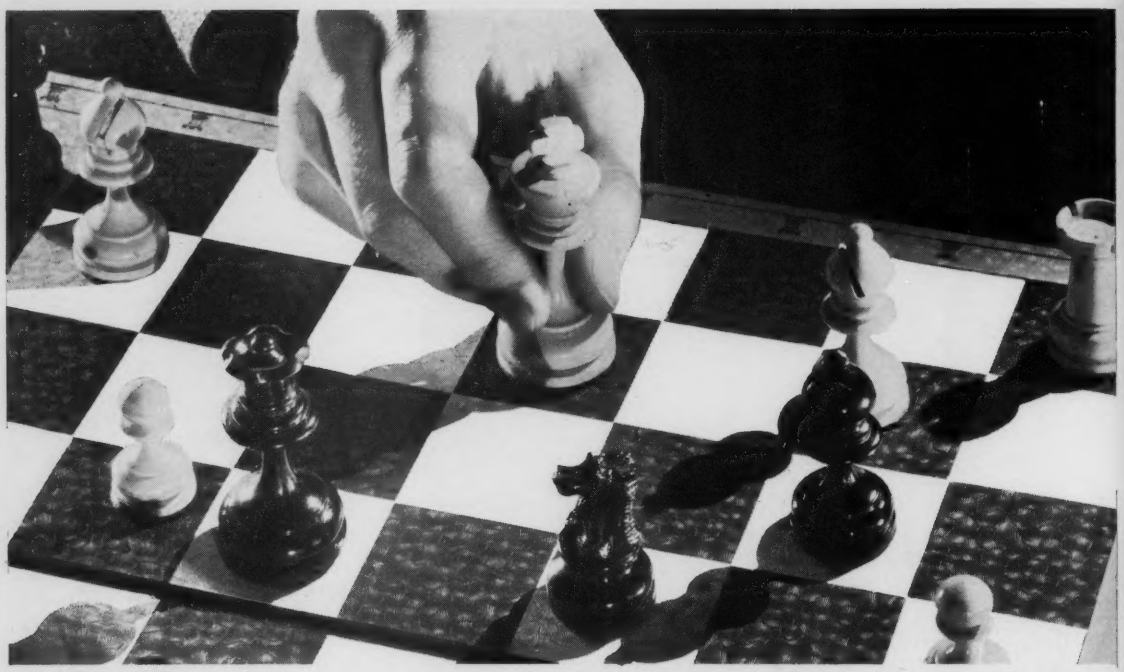

Move in the right direction

There are more important win-or-lose decisions to make in printing than in chess. In either game Experience is helpful. In printing, few moves are more vital than the selection of paper, and printers and lithographers have been winning with Cantine's Coated Papers for nearly three quarters of a century.

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LET'S TALK FACTS!

CARBON ARCS
vs.
OTHER LIGHT SOURCES

LIGHT *is the backbone of the graphic arts industry. And the greatest brightness per unit area of any artificial light source known is obtained from the carbon arc!*

Rivaling the continuous spectrum of the sun, the carbon arc produces all colors of the spectrum. It requires less exposure time, has higher lumen per watt efficiency, and is lower in operating cost.

READ THE FACTS OF LIGHT!

WHAT ABOUT LIGHT COSTS? Comparative studies of a 10mm high intensity carbon arc *vs.* the principal non-carbon light source with a 2 KW power input show the superior economy and efficiency of the carbon arc:

OPERATING HOURS OF 2 KW INPUT (Non-Carbon Light Source)	OPERATING COST OF CARBON ARC
20	75% Less
50*	66% Less
70*	50% Less

*Estimated

The efficiency and cost advantages of the carbon arc over non-carbon light sources are even greater at higher KW input.

WHAT ABOUT LIGHT EFFICIENCY? Here are examples of facts recently obtained from tests proving the higher efficiency of high intensity and white flame carbon arcs *vs. the most powerful non-carbon light source in use today:*

350% MORE EFFICIENT: Total power input (not arc power) for a 10mm high intensity photo trim is 34% higher than that of the opposing light source of 2 KW input, *but* it produces six times more light, and has 350% greater lumen/watt efficiency.

38% MORE EFFICIENT: Total power input for a ½-inch photographic white flame trim is 23% higher than the same 2 KW source, *but* it produces about 70% more light and has 38% greater efficiency.

378% MORE EFFICIENT: Total power input for a 10mm H.I. photo trim is 36% lower than that of the opposing 4 KW source, *but* it produces three times more light and its efficiency is 378% greater.

46% MORE EFFICIENT: Total power input for a ½-inch white flame trim is 42% less than that of the same 4 KW source, light output is 15% less, *but* its efficiency is 46% greater.

288% MORE EFFICIENT: Total power input for a 10mm H.I. photo trim is 46% less than that of the opposing 6 KW source, *but* it produces twice as much light and its efficiency is 288% greater.

15% MORE EFFICIENT: Total power input for a ½-inch white flame trim is 51% less than that of the same 6 KW source, light output is 44% less, *but* its efficiency is 15% greater.

Thus, the carbon arc—particularly the high intensity carbon arc—has a much higher efficiency in terms of *light per dollar* than any other source of artificial light.

National Carbon Company submits the foregoing facts as an aid to the graphic arts industry in maintaining or achieving maximum efficiency, longer gray scale, less negative make-over, less handwork, and increased production capacity.

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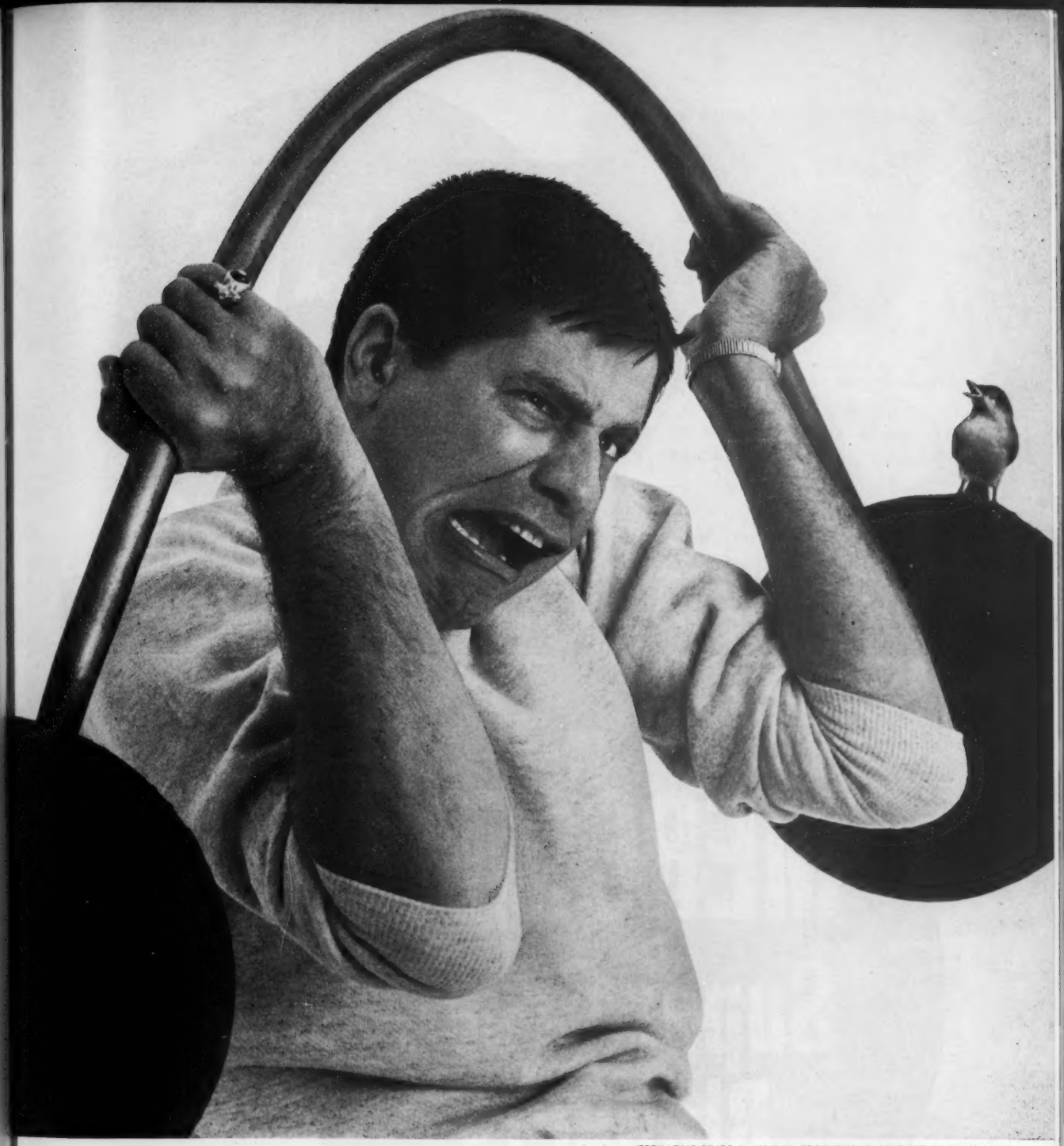

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EDITORIALS

Results from the Laboratory

THE CLASSIC picture of the laboratory scientist is one of a long-haired, near-sighted little man peering into microscopes and test tubes, far removed from the workaday world.

That image has been much changed in recent years, as more and more research centers have given emphasis to developing ways to put their findings into actual production use. More often than not, the research man has practical experience in his field, and knows the problems of the man in the shop.

This is certainly true of our own research center — the Lithographic Technical Foundation — where emphasis on "reduction to practice" has been stepped up in recent years. LTF clinics and workshops in various regions — some of them using the exciting new concept of closed-circuit television — have drawn thousands of men from litho shops in all parts of the country to technical forums.

In addition, recent changes in the LTF periodical, *Research Progress*, have made it much more usable. Now each issue is slanted toward a particular man or department in the shop for maximum usefulness.

Lithographers who are wise enough to pay attention to this valuable publication, learned recently of a new LTF development, the Star Target, a small circular pattern of solid and clear pie wedges, which, when printed on a press sheet, gives the pressman a quick measure of ink spread, slur or doubling. (*For full story, see page 27*).

And readers of another recent issue learned about the effect of paper color on process color jobs. They learned, for instance what happens to flesh tints, blue skies and green grass when printed on cream white and on fluorescent stocks.

This emphasis on the practical use of research findings as the ultimate goal of any applied research project has been well received by supporters of the Foundation, who recently passed the 1,000 mark.

The old fashioned picture of the research man working in his ivory tower just isn't valid anymore. Oh, there may still be a few near-sighted technicians around, but as for the long hair . . . it's been replaced by the crew cut!

Web-Offset: Two Sides to the Picture

SO MANY enthusiastic endorsements for web-offset have been made in recent years that there is a real danger lithographers will overlook the several problems of the method, not the least of which is a rather large output of money, not only for the press itself but for the many accessory units.

John Scouller, who writes on the subject in this issue (page 22), is about as close to the subject as anyone, so lithographers are urged to consider his candid estimate of the pros and cons of the process. Author Scouller is sold on the advantages of web-offset, but he is realistic about its shortcomings too. ML hopes his interesting discussion will help to place web-offset in its correct perspective.■

Quote of the Month

'It is becoming more and more difficult and less and less useful to make a general survey or evaluation of web-offset. This is because web-offset is no longer a new method of printing . . . no longer the struggling infant, learning how to walk; but rather a robust teenager, flexing its new muscles, but still not without problems.' — John B. Scouller, pg. 22.

Phillip Litho Co. move shows advantages of *Suburbia*

BY GEORGE E. TOLES

THE numerous advantages found in suburban location of a modern printing plant are readily apparent in the newly opened headquarters of the Philipp Lithographing Company at Grafton, Wis.

This medium size company, producing offset lithography only, was organized in Milwaukee in 1913. When it became necessary for Philipp to install new and larger presses, it was found that the old plant in Milwaukee would not carry the load without extensive remodeling.

The old location was on the edge of a slum district. So Fred Glantz, president and general manager, decided it was logical to build in a new area. But land prices in Milwaukee, along with the cost of new equipment, would have presented an out-of-the question construction figure. The solution came with the opportunity to secure 10 acres in the nearby village of Grafton, a community just 20 miles north of Milwaukee.

The result is one of the finest medium size lithographic plants in the midwest. It is located along a main highway and a mile to the east is a super highway which connects with the Milwaukee expressway system.

When the expressway is completed it will be possible to reach downtown Milwaukee in 30 minutes from the Philipp plant.

"The results of this ambitious program are beyond anything we expected," Mr. Glantz told ML. "In the old building we had three floors which slowed operations considerably. Here we're all on one floor with each department only a few steps from each other. We have a direct flow of work from start to finish."

Mr. Glantz added: "We specialize in color work and our new five-color press gives us wonderful quality with unbelievably fast make-ready. In fact, all of our new equipment, together with our work flow plan, has increased our production to where we are now in a most favorable competitive situation.'"

Surprisingly, the firm's delivery service is better than it had been when the company was located in the city proper. Shipments to Milwaukee are delivered the same day. The plant also ships to other points without transferring to Milwaukee. Another advantage of the suburban location is the clean air. The firm has no problem keeping air conditioning equipment clean because there is no industrial smog. This also helps keep the entire plant clean.

Move 'Took Courage'

Mr. Glantz admits it took "a lot of courage" to make the radical shift in location. But he feels the decision has been a wise one. The new structure is set 150 feet back from the highway, with a landscaped terrace sloping gently down to the driveway. The shipping dock is at the south end of the building, with a depressed roadway to the dock so that trucks can back up to the automatic adjusting platform.

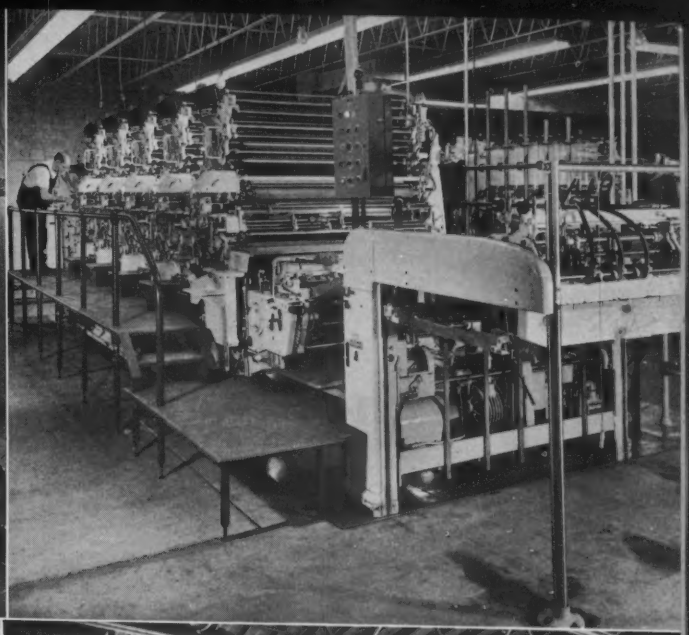
A large parking lot is located at the north end, with visitor parking provided along a drive in front of the building. Of the original 10 acres, four remain for future expansion. The building has a 200- foot frontage and is 120 feet deep, with the main production section about 90 feet deep by 170 feet long, with 14-foot ceilings. In front of this is a 30 x 30′ office section with a nine-foot ceiling. This part of the building contains the executive offices, general office, conference room, lobby, art department, camera room, platemaking department and a two-car garage.

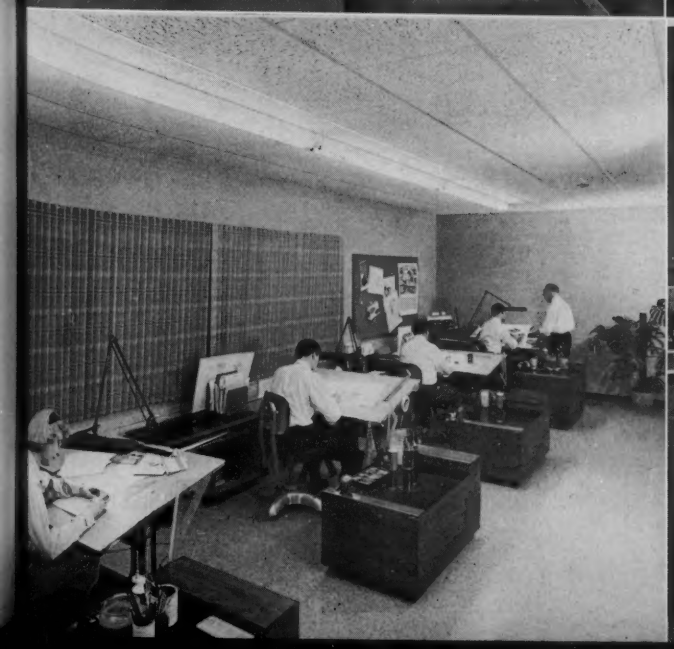
All the exterior and interior walls are of Waylite block. The face of the front west wall is red roman brick with thermo pane windows. The entrance lobby is in the center of the structure and extends six feet out from the main facade. It has thermo pane glass on three sides with double glass doors.

A 25 by 60′ addition already has been constructed on the east end of the plant to house the color checking room and to provide additional storage and an ink room. The roof has a corrugated steel deck with four inches of rigid insulation above. Interior

(*Continued on page* 102)

IN THE PHOTOS: Top left, Barbara Glantz at reception desk. An interior decorator, she designed all offices. Top right, Harris five-color press. Middle left, office of president Fred Glantz, with John Buening, vice president and production manager, at left. Center, artist's view of new plant. Middle right, platemaking department. Lower left, art department. Lower right, art directors and vice president Everett Edelman.





Web-Offset: A Reappraisal

BY JOHN B. SCOULLER
Poughkeepsie, N. Y.

IT is becoming more and more difficult and less and less useful to make a general survey or evaluation of web-offset. This is because web-offset is no longer a new method of printing; today a web-offset press is an accepted piece of equipment in the offset lithographer's shop. As E. G. (Ed) Ryan puts it: "Web-offset is no longer the struggling infant, learning how to walk; but rather is a robust teenager, flexing its new muscles, but still not without problems."

The signs of this maturity are many. Several of the more important ones are outlined below:

1. The engineering "bugs" have been worked out of the standard size presses and these designs have been "Frozen" to enable economical, mass manufacture.

2. Interest in and use of web-offset equipment has expanded from a few early pioneers to a large number of medium sized lithographers and printers. The number of presses has increased 10 times in the past decade.

3. This interest has resulted in a vigorous trade group within the Printing Industry of America. Nearly 600 attended its recent meeting. This group seems willing to finance the research that is necessary to eliminate still existing technical problems and to facilitate the training of skilled pressmen who are and will continue to be in short supply.

4. A corps of experienced, skilled web pressmen has resulted from the early trial and error years and these craftsmen can now train new crews for their respective plants.

5. Consultants, specializing in web-offset production, technical, and/or engineering problems are now available.

6. There is now a tendency for firms operating both sheet and web equipment to put high quality jobs on their webs, instead of reserving these jobs for their sheet-fed equipment.

7. Web-offset has invaded non-offset fields. The most important examples are newspapers, books, and mass consumer publications.

8. Web speeds are approaching those obtained by rotary letterpress and rotogravure. The Levey drum press installed in the McCall plant is rated at 2,000 feet per minute and has been run at that speed.

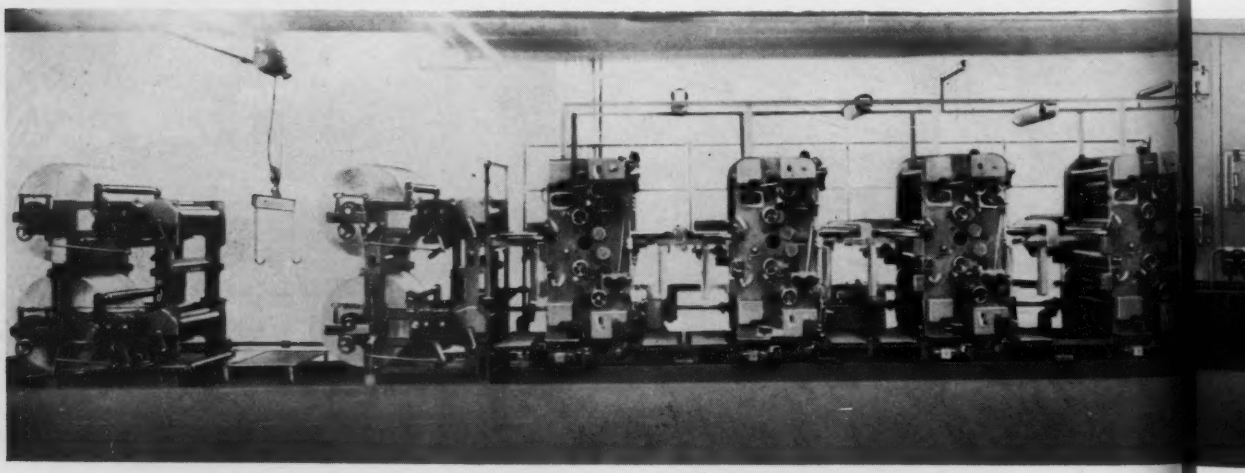
9. We are now exporting web-offset "know-how" to Europe, the birthplace and cradle of web-offset presses

10. We are also exporting our old web presses to South America. New designs and faster speeds make these early presses obsolete long before they are worn out.

11. Every major American press manufacturer is now making or selling some type of web-offset press.

However, we all know that teenagers have problems and web-offset is no exception. The recent flood of trade

An example of a modern high-speed web-offset press. This is a 23½ x 38" American Type Founders four-unit press with



magazine articles and speeches has led many to believe that all the problems which restricted web-offset's growth for 30 years have now been solved and the proverbial pot of gold is just waiting for the lithographer who buys a web press. This, of course, is not true. The problems that must be faced by a web-offset purchaser are many and extend beyond the technical ones. Some of these problems are the following:

1. *Waste.* Normal paper waste, even with experienced crews, is very high. On a four-color press this is in the 10-15 percent range.

2. *Paper.* Much work remains to be done to provide a less expensive coated sheet that can stand the tremendous strains put upon it by the web-offset press. Until such time, ovens will have to be lengthened to allow the paper to dry without blistering, at the speeds which are now possible with new presses.

3. *Engineering.* Unless a press of standard size and design is ordered, there will be engineering difficulties; "bugs," which must be gradually worked out with resulting cost and lost production.

4. *Skilled pressmen.* Skill is required to do high quality work at production speeds. Unless experienced crews can be obtained, this skill must be slowly obtained by trial and error. This means that high quality can not be achieved at once and this "training" time must be considered when projecting costs and production schedules. Better personnel selection methods will reduce this time.

5. *Breaking-in costs.* During the period when the "bugs" are being worked out of the press, the ink and paper manufacturers are trying to come up with a combination that will work on *your* press, the plates department is learning the type of negative or positive that will give the desired results with the new plates and press, and the crews are becoming skilled, the new web-offset press will be filling the waste paper baler at a tremendous rate. This is a major cost of any new web-offset installation which is usually underestimated when initial costs are being forecast.

Regular readers of Modern Lithography will remember author Scouller's cogent appraisal of web-offset in the January, 1959 issue, which he here brings up to date. The earlier article was part of a six-part series on web-offset which was reprinted in booklet form (now out of print). The editors plan to reprint this booklet, incorporating the present article, the revised survey of web-offset equipment (July, 1961) and other new material, in several months.

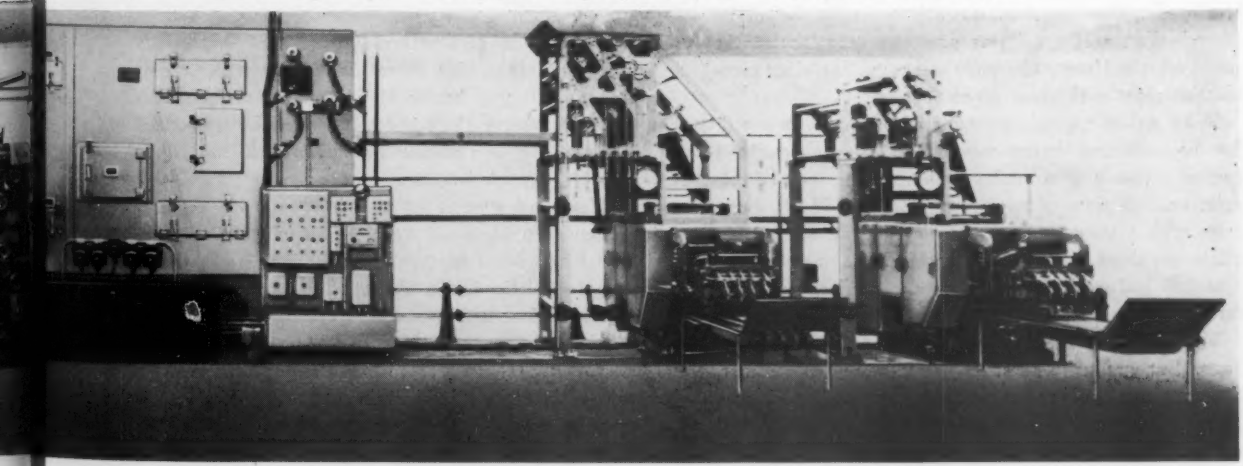
6. *Necessity to think big.* The small or medium sized printer or lithographer must force himself to think beyond his past experience and "think big." This is especially necessary in two areas: number of units (blanket-to-blanket) to buy and the sales effort needed to keep the press busy on two shifts.

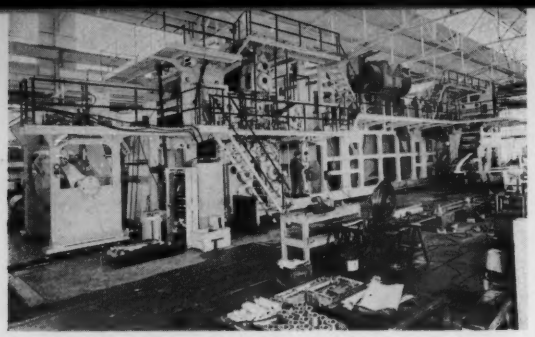
Start Small and Expand?

Often the potential web-offset buyer reasons that he will buy one or two units and if these make money, he can always expand the press by buying two or three additional units at a later date. The flaw in this reasoning is that to compete it is essential to have four units at the very beginning. Otherwise you will be forced to turn down jobs which are ideal for web-offset but which can not be printed economically on your limited equipment. Additional units are not needed to produce four color process work but rather to allow for multiple webs to be printed and folded at the same time.

The second aspect of this "thinking big" is the sales effort necessary. The press must be run on a two-shift basis if the anticipated profit is to be realized. The work to be produced on these two shifts must be lined up before the press arrives. It is too costly to wait until the press is running well to start to look for work for it. At the same time you can determine if a market really exists for your web-offset press. To do this your sales

four roll stands, an Offen dryer and two folders. Despite problems, author sees big future for web-offset.





New Levey common-impression cylinder press at McCall's.

effort and sales territory must be expanded before the press is erected.

7. *Lack of adequate planning.* This is closely related to "thinking big." Special attention must be given to these areas before the press arrives:

- Material handling: rail facilities and intra-plant handling of roll stock and finished signatures and sheets.
- Storage for roll stock and work in process. Space must be provided for signatures that are waiting for the completion of the job.
- Impact on other departments: new skills and new equipment will be needed to handle the increased work and different type of work.
- New services required: publication binding, mailing, and the printing of non-web parts of a web offset job.
- Working capital: increase caused by large inventory of roll stock, work in process, accounts receivable, increased payroll, and new equipment payments.
- Operating costs: supplies, press expendables, gas, water.
- Cost of press accessories: ink agitators, color separators, electric eye controls for folders, packer boxes, etc.

Going Into Web-Offset Is Expensive

The only conclusion one can draw from reading this partial list of potential problems is that going into web-offset is expensive. Unless one is willing to stand the initial costs, he should stay out, because the costs are very real. But if one is willing to finance the early expenses, the financial returns will eventually prove the investment to have been very worthwhile.

Perhaps a short case history will illustrate this point. In 1957, Wallace Hurley, founder and president of the Hurley Co., Camden, Ark., was able to foresee the future of web-offset as the printing process of the 'sixties. At that time, the Hurley Company was a medium sized combination plant with about 40 employes.

With no orders, only a couple of prospects, but with lots of faith and determination Mr. Hurley bought a two-unit (two colors on both sides of one web or one color on both sides of two webs) 22¾ x 36″ Hantscho press with a versatile former folder and an expandable Offen gas dryer. He was able to hire a young pressman who had had some experience on an identical press and carried this man on the payroll until the new press arrived.

With the press came the problems and the unexpected costs. But gradually these problems were worked out, the costs met, publication work on uncoated stock was found, a crew was trained, and the press was operated on a one shift basis with about 50 percent productivity. As more work was found—outside the normal sales territory—and the press crew became more skilled, the press was run on overtime and finally on a two-shift basis, after two years.

But by this time the web-offset operation began to demand more space and attention and to interfere with yearbook production. To solve this problem, a separate web-offset division was established and the press, its plate making facilities, and the publication bindery, (which was established after the press arrived) were moved to a new building which had better material handling facilities and more space. Two additional units were also added. Now, three years later, Mr. Hurley can honestly say: "I would do it again!"

The web-offset lithographer of today is more fortunate than Mr. Hurley in one respect: he can benefit from the mistakes of the pioneers. But, in another repect, he is less fortunate, since he must operate in a more competitive market.

Predictions for the Future

My own predictions of the future of web-offset are the following:

1. *A continued expansion in web-offset by two different segments of the industry.*

More medium sized lithographers and printers will install the highly flexible, short makeready, blanket-to-blanket presses in the 22¾ x 25″ size. Presses with wider (than 40″) webs will not prove economical since it is difficult to control these wider webs and keep register, on this type of press.

Manufacturers of highly standarized products with long runs and heavy color requirements, such as magazines, will tend more toward the drum and semi-drum press with its steam drier, excellent color and register control, and ribbon folder.

The small unit type press with impression cylinders will continue its much slower growth in firms doing one-sided work, certain specialties and business forms.

2. *The use of web-offset for weekly newspapers is already established. This trend will continue and medium sized daily papers will begin to use web-offset in from five to* 10 *years.*

3. *The most important new field is books—especially text books for the high school and college trade.* Text book publishers will be forced to standardize their sizes in order to achieve the economies offered by web-offset.

4. *There will be a continued invasion of the publication field as press speeds increase.*

5. *More and more work will be transferred to webs from four color sheet-fed presses. This will be "commercial work" produced by web presses having sheeters. Some firms will specialize in this high quality, commercial work.*

6. *To achieve this predicted future for web-offset, it will be necessary for the industry to support more basic research—as opposed to data collection and applied research* — in order to solve the basic problems of the offset press, especially the dampener system, and the new problems which will result from the higher speeds.■

Offset for Newspapers—What Is the Future?

BY C. M. YONGUE
Memphis, Tenn.

THE inroads that offset is making into the weekly and small daily field will continue, judging by the comments I received in a recent survey of 201 newspapers publishers.

In 1949 there were approximately 50 offset weekly newspapers. In 1954 this number increased to about 300. I have counted a total of approximately 460 daily, bi-weekly, weekly, semi-weekly and monthly offset newspapers. This count is confined to offset newspapers of general circulation. Shoppers, legal, religious and fraternal newspapers are excluded, solely to keep the count within bounds. A survey made by *Publishers' Auxiliary* places the total of offset newspapers near 900.

Any count of offset newspapers can only be regarded as a close approximation. Counting offset newspapers is something like counting moving sheep in a field. My count has been revised several times since it was first compiled. Each week during my research on offset newspapers brought in information about other offset newspapers.

I received 56 replies from the 201 questionaires sent out, making a 27 percent response. Fourteen of those replying farm out all or part of their printing. One monthly has the composition and makeup done in a letterpress shop and the balance of the work in an offset plant.

Six weeklies in the Pittsburgh area are printed in one plant. One plant in the Chicago area prints nine weeklies, while a plant in Long Island prints 42 weeklies under contract. In Massachusetts, 13 weeklies, and seven bi-monthly and monthly newspapers are printed, under contract, in one plant. Fourteen newspapers in four states are printed by a Mississippi contract printer. A contract printer in New Jersey prints 20 publications and 50 school papers.

Offset publishers agree that the ability to produce more pictures at lower cost is the chief advantage of the process. One publisher is using pictures to render a public service by showing unsightly areas in the community. This has resulted in the cleaning up of these areas.

Other advantages listed are: Cheaper composition, shorter training period, and versatility and flexibility (although an Indiana publisher claims that "flexibility makes careless work easier").

Of all the newspaper publishers who answered the questionaire only one failed to answer the question about the advantages of offset.

Advantages of Offset

Some of the pertinent answers follow:

California weekly: "I would list the advantages of offset as follows: 1, Better quality of reproduction, particularly for advertisements and halftones, which give the offset newspaper a qualitative advantage over its letterpress competitor. 2, Reduced cost and better quality in the use of color. 3, Elimination of the expense of zinc engravings and the resultant ability to use more pictures. 4, Flexibility and versatility in design."

Another California weekly: "Advantages: flexibility, availability of illustrative material (anything printed we can duplicate, reduce or enlarge), great asset for advertisers who can use illustrations from brochures, etc., of exactly the object to be advertised, tremendous advantage in news end to run lots of photos."

Georgia tri-weekly: "The big advantages in cold type—offset . . . are the brilliant halftones and the low cost pictorial emphasis, the availability of lower cost composing room labor, the shorter training periods and the ease of making up tricky advertising layouts."

Massachusetts contract printer: "As for the advantages, potential and future of offset newspapers the following are some of the major considerations: Lower printing cost—no engravings required. Copy can be prepared for camera in an office-type set up, using typewriters and photocomposition. Due to the lower cost, small towns can support a weekly newspaper. In fact, in many cases it meant going to offset printing or going out of business. With new web-offset presses becoming available, production will be increased and costs will be lowered still further, thus widening the field. In the field of shopping guides for large chain stores and shopping centers, the surface has only been scratched. Offset printing of publications is sure to expand greatly."

Michigan weekly: "I think this is the greatest thing to hit weekly newspapers ever. Our labor cost are down, our job volume and advertising volume are up. We are having very good pictures and people *really like* our paper now. We average one inquiry every two weeks on whether we can take on the printing of a shopping guide or another newspaper, etc."

Pennslyvania weekly: "Lower cost; . . . offset equipment is more adaptable to job work than is letter-

press equipment. Offset likely to make most headway in the weekly newspaper field; do not see that it will make too much progress in the near future in the daily field due to the heavy investment tied up in present equipment."

The words most used to describe the potential and future of offset newspapers are: "Tremendous," "unlimited." Two publishers predicted that eventually all papers will be printed by offset.

A monthly publisher says "It is my personal opinion that there is a great future in the newspaper field for the offset printing process in combination with the use of cold type. While this process today is practical only for weeklies and small dailies, the technical advances which have been made in web-offset presses and the continuing studies in cold type, will, in the foreseeable future, make this process practical for even large metropolitian newspapers."

A California weekly publisher says that the future "depends upon the ingenuity of the editor-to-be."

A Wisconsin weekly publisher believes "that the next 10 years will see a tremendous increase in the offset newspaper in both weekly and daily papers. "The proof of the acceptance is in the quality of the pictures which letterpress cannot hold a candle to."

Limitations of Process

Lack of competent help, problems in gathering and slowness of cold type equipment are the limitations listed.

Interesting comments on this question were:

California monthly: "Among the disadvantages I would list: 1. Production cost. This refers primarily to our operation wherein the type is set and page made up as if for letterpress production. This disadvantage can be and has been overcome by eliminating the composing room through the use of VariTyper or Justowriter. The production quality of these machines has been greatly increased in recent years. 2. Press speeds. For the smaller newspapers this is not a disadvantage since comparable or greater speed can be obtained on a sheet-fed offset than a flatbed letterpress. On the other hand, the web-offset press can develop only half the speed of a newspaper rotary press. 3. Plant investment. Considering the press work alone—the inital cost of equipment for newspaper production is considerably higher than the cost of a sheet-fed flatbed press. This disadvantage, however, can be offset if Vari Typer or Justowriter is used in the over-all operation in place of the Linotype machine . . . The main bottlenecks today are press speed and the problem of making rapid corrections and changes in makeup."

California weekly: Tendency to take too many short cuts which damage quality."

Colorado weekly: Problem in locating competent help; need for better cold type process."

Georgia tri-weekly: "Our problems are largely training and high costs in the composing room and the plate room.

"This, I suspect, will surpise you since cold type and offset are usually regarder as being cheaper. What is overlooked is the cost of the photographic tape that goes through the headline machine (nearly 5 cents a foot) and reproduction paper for the cold type machine. Hot type metal is essentially a one-time purchase and paper used is waste newsprint.

"Added to offset costs—above letterpress and stereotype printing—are plates, negatives, and chemicals and these are substantial items. Careful management and good production procedures can keep these extra costs from washing away the savings in labor cost, but eternal vigilance is absolutely necessary."

Massachusetts contract printer: "You are limited to what you can produce on the equipment you can afford to purchase and maintain. A certain size press will print and produce a certain size paper. Larger presses are being designed within the purchasing power of small shops, which will raise the limits on the size and number of papers printed. Better plates are also being made for longer impressions with less downtime on the presses. Faster setting inks will have to be made to improve quality as papers now have to be handled wet when deadlines are close."

A New York daily listed the disadvantages as: the type faces, particularly the small faces, available on the typesetting machines being used are definitely limited. 2. Non self-justifying machines slow down the operation. 3. The cost of offset ink is higher. 4. Newspaper spoilage due to press tension and the need to obtain proper ink and water balance.

Oklahoma weekly: "Problem is finding people with problems similar to the ones we encounter. So few offset papers are produced in this area that it is difficult to air our problems with others."

Pennsylvania weekly: "A shortage of trained offset printers, shortage of help, particularly in non-metropolitan areas."

South Dakota weekly: "Several press runs, gathering takes time."

Wisconsin weekly: "Main problem is that of unskilled help trying to do a skilled job of offset. It requires just as much know how as letterpress printing, and just because a man is an expert letterpress craftsman doesn't make him qualified to do quality offset work."

All of the dailies, as well as the contract printers, that answered the questionaire use web-fed presses. All of the weeklies, but one, use sheet-fed presses.

Size of Presses

The largest sheet-fed press used is a 26 x 48″ which prints four standard size pages per impression. The 17 x 22″ press is preferred by the tabloid publishers. This press prints two pages per impression. One four-column tabloid uses a 14 x 20″ press. Many of the publishers, who print their own papers, also have a smaller offset press, such as a 10 x 14″, for job work.

Only one paper, a shopper, uses a homemade camera. One weekly has a camera which uses the darkroom as a bellows. The rest use regular offset cameras.

Four weeklies use hot metal slug

(*Coontinued on Page* 102)

A new quality control device for pressmen:

THE LTF STAR TARGET

for ink spread and resolution measurements

BY GEORGE W. JORGENSEN
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THE LTF Star Target is a small circular pattern of solid and clear pie wedges. When printed on a press sheet it gives the pressman a quick and effective measure of any ink spread, slur, or doubling in his presswork. The target is also used for resolution measurements in camera work and platemaking. This article describes the target, its early history, and its practical applications as a quality control aid in a lithographic plant.

Figure 1 shows a same size reproduction of the target. The target is

Figure 1

a silver image on film and consists of 36 black and 36 transparent wedges of equal size arranged in a circle. The geometric properties of this arrangement make its press sheet image extremely sensitive to ink spread, slur and doubling.

We first became interested in the use of wedge-shaped patterns in 1957 after Robert E. Wood, of the Western Printing and Lithographing Co. in Racine, suggested that a target developed at his plant might be of help in our print quality studies. This WP&L Target is shown in *Figure 2*. It has a solid, 1/8" diameter center surrounded by 90 pie-shaped solid radial wedges. The solid center disk is used for reflection density measurements on the press sheet. Ink spread

Figure 2. (This engraving did not faithfully reproduce the target, which has a solid 1/8" center)

causes this disk to increase in diameter. Ink slur causes the disk to elongate or stretch at right angles to the slur direction. This elongation is caused by slur closing up the fine wedges that are at right angles to the slur direction.

We liked this target very much, especially its sensitivity to slur, but found it difficult to use for precise measurements of ink spread and resolution. The reason was that a given amount of ink spread, with its corresponding reduction of resolution, added only a small percentage increase to the diameter of the center disk.

We then looked for some design that would increase the WP&L target's sensitivity to spread and slur but which would make the resolution and ink spread measurements easier and more accurate. This could be done by:

1. Adding more and finer wedges to the target or

2. By eliminating the solid center disk and continuing the tapered wedges into the center.

Any ink spread or slur would then cause a large black disk to appear at the center, the entire disk being the result of the ink spread. This immediately suggested the fan type targets used for the testing of lenses. Of the various type targets in use, the Siemans target, from Germany, most closely resembled the WP&L target and had the required finer spacing of the wedge at its center. William Lyon, of the LTF staff, located a Siemans target of this type in etched evaporated metal on glass. We then made contact prints from this glass master onto high contrast film.

The film contacts were exposed in the trim area of test plates for our laboratory presses. They were found to have very high sensitivity to ink spread and slur. They also have an added advantage in that the effect of the ink spread on image resolution could easily be expressed in lines per inch. This is done by measuring the diameter of the close-up center of the wedges. We now call this device the Star Target after its more common name in the optical industry.

Plant Testing

After completing the testing of the Star Target in our laboratory pressroom, as well as finding some new uses for it in the camera and plateroom, we decided to conduct a plant test program. In October, 1959, the target and a set of instructions on its use were sent to 54 plants in our quality control group. We asked them to test it in their own plant. In March, 1960, we sent a questionnaire to the group asking how they liked the Star Target. Their response was

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very favorable. Of those plants which had tested the target, 92 percent said they were finding it helpful in their pressroom.

This test program helped spread the use of the Star Target in the industry. In our March, 1960 Research Committee Meeting, it was decided to make the target available to our entire membership along with more complete instructions. These new instructions are the next section of this article. The delay in the release of this information to LTF members has been due to the great difficulty in producing suitable targets of the quality and in the quantity required. This problem has now been solved.

Use In Pressroom

The LTF Star Target is available as either a negative or positive. The target is stripped to the plate flat or photo-composing chase so that it will print in the trim areas at each corner of the trailing edge of the press sheet. While other positions on the sheet can be used, the corners of the trailing edge are usually the most sensitive in showing any slur or doubling. If space is limited, the target can be opaqued or trimmed down to a ¼" diameter circle.

The image of the target on the press sheet shows the amount of ink spread and its direction by the way the center wedges of the target filled-in with ink. You make this examination of the target at your normal viewing distance, or better, with a hand magnifier. For example, *Figure 3* shows how the target image appears on two different press sheets.

Figure 3A shows the target in black ink on enamel paper. Here, there is very little ink spread, since the wedges are open almost to the fine white center.

Figure 3 A

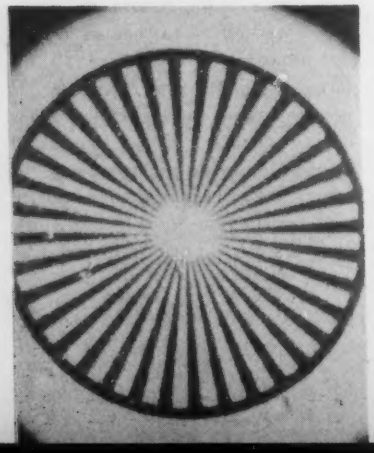


Figure 3B shows the target in cyan ink on coated paper. Here, considerable ink spread has caused the wedges to fill-in to a center disk of considerable size. This ink spread is almost uniform in all directions so that the center, fill-in is approximately round.

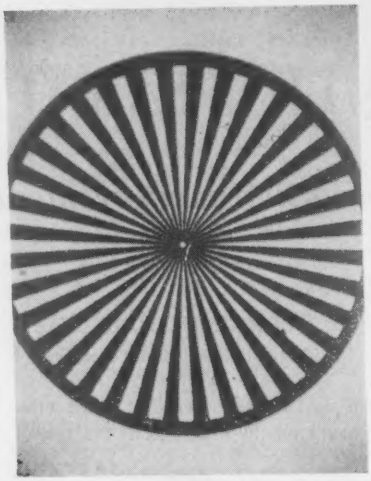


Figure 3 B

Figure 4 shows a target in which the ink spread is greater in one direction, producing an oval shaped center. It indicates a slur condition that is at right angles to the long axis of the oval. *Figure 5A* shows a target which closely resembles 4 but where the center shape is due to image doubling.

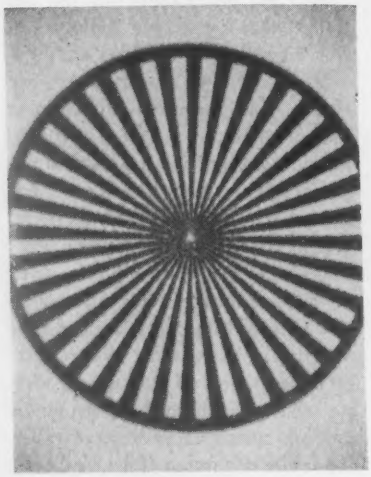
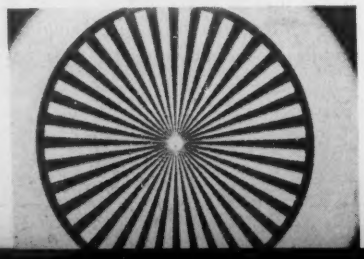


Figure 4

Figure 5 A



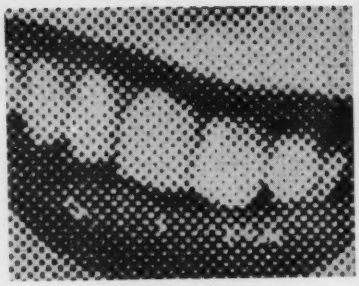


Figure 5 B

To distinguish doubles from slur, the pressman should examine his press sheet very carefully. A good procedure is to examine the extreme highlight dots in nearby halftones. Doubling will cause these dots to become oval or to have a faint dot following the regular ink dot, as shown in *Figure 5B*.

Slur and spread do not affect the highlight dots. In extreme cases of doubling, the center becomes a figure 8 or a dumb-bell shape. In either case, the magnified effect produced by the Star Target signals a quick warning to the pressman of a press condition that he might not discover for a while if he relied solely on his normal checking procedure.

One of the main advantages of this Star Target is that a spread, slur or double, which lengthens a halftone dot .001" will cause a spot measuring .023" in the center of the target. The reason for this magnifying effect of the target is that if the width of one of the black wedges is increased by one unit, that wedge will overlap the edge of an adjacent wedge for about 11½ units out from the center. Considering the wedges on both sides of the center, the total spot width is 23 times as great as the actual ink spread.

Figure 6 represents a highly magnified center section of the target and shows how spread causes the wedges to overlap.

We can reverse this procedure and use the width of the solid center to find the resolution in lines per inch in any direction across the press sheet. To do this, we measure the width in inches of the solid center at right angles to the direction we wish to measure. A micrometer microscope

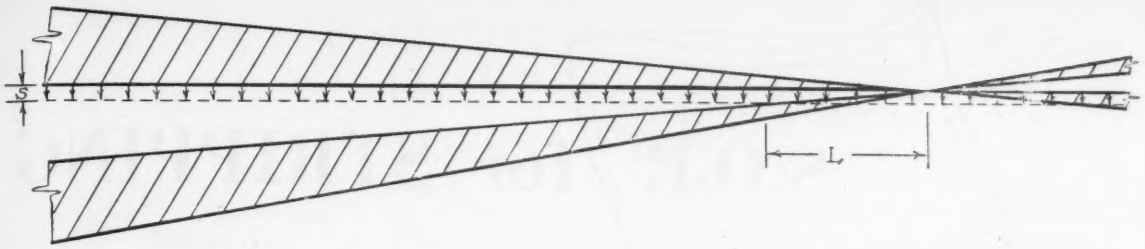


Figure 6

can be used to make this measurement. Using the following formula you can then determine the resolution in lines per inch.

Lines per inch =

$$\frac{11.47}{\text{Width of the solid center}}$$

For example, if the width is 0.010",

$$\frac{11.47}{.010} = 1147 \text{ lines (pairs) per inch}$$

The maximum resolution that the average Star Target can measure is about 1300 lines per inch (1300 black and 1300 white lines of equal width). This limitation is due to photographic imperfections of the wedges at the center of the targets in the film copies.

The resolution by the press sheet is determined primarily by the combined effects of the plate grain, press, blanket, ink and paper. These variables each affect the amount that the ink spreads when it is transferred from the plate to the press sheet.

For example, if on a job we reduce the tack of the ink, the resolution will usually decrease due to increased ink spread. Because of the interaction of these variables on press sheet resolution, it is necessary to examine each one to determine the cause of poor resolution on a given job.

Also, it must be kept in mind that we are measuring only the printing conditions and not the line and halftone transparencies used in platemaking. If the resolution of printing is 1200 lines per inch and the resolution of the halftone is only 100 lines per inch, the press sheet halftones cannot have a resolution above 100 lines per inch.

Use In Plateroom

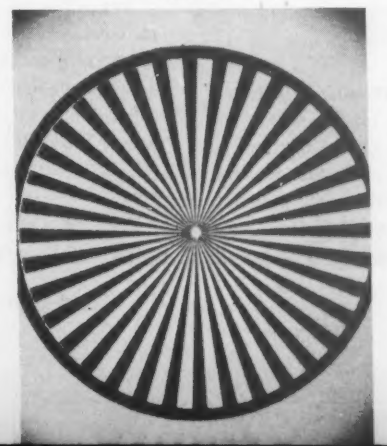
The Star Target can be used in the plateroom to check for undercutting by light during the plate exposure. If the target is in good contact with the surface of the plate coating, it is not very sensitive to light undercutting effects. When the contact of the target and plate is good, an almost perfect reproduction of it will be formed on the plate.

However, an entirely different situation holds where the transparency is *not* in good contact with the plate coating and is separated by an appreciable air film. In this case, the collimating or paralleling effect on light rays of the high refractive index of the film is lost. Also, the thickness of the air film increases the undercutting. In such cases, say where stripping tape or the thickness of the goldenrod paper prevents the edge of the halftone transparency from making good contact with the plate coating or where large dust particles separate the film from the plate, lateral undercutting of several thousandths of an inch is often observed.

For these reasons, if the platemaker notices that the center of the Star Target on a negative working plate has closed up, it is quite probable that he had poor contact during exposure. Correspondingly, a large white center is produced by lack of contact on a deep-etch plate, as shown in *Figure 7*.

One other cause of solid centers, particularly on smooth plates, is too much lacquer or ink on the image. This later effect can be quickly checked by removing the lacquer or ink and examining the stain image of the target on the plate.

Figure 7



Use in Camera Room

The Star Target can be very useful in checking resolution in the camera room. Indeed, this was its original purpose. However, we found it convenient to modify the methods by which the target is used in the optical industry as well as to add some new ones.

In ordinary use, the target can be stripped up with transparent camera copy, such as color transparencies, to check the resolution of the lens-film combination. You then use the resolution formula given in the press-room section to compute the resolution in lines per inch.

The target can also be used for reflection copy. To do this, instead of using the original target, substitute a paper copy of it. Very good paper copies are often produced on press sheets. If the cameraman carefully selects targets from press runs where there was no ink spread or slur, the maximum resolution limit of the targets will be nearly as high as on the original target. Press sheet targets can actually be superior to copies made on photographic paper, since the targets are not distorted by the various halations, developer effects, etc., of photographic paper images. Another advantage of press sheet targets is that they can be in colored inks as well as black.

A novel use of the Star Target is to measure the resolution of halftone images. In this use, the target is

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S.O.P. for STRIPPING

Marking the Masking Sheet

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FIRST step in marking the masking sheet with the basic layout lines is to position the sheet down on the stripping table. One of the long sides of the sheet is placed firmly against the front straight edge of the table. This edge of the masking sheet is to be the gripper edge. In this position, with the use of a T square, lines can be drawn parallel to the gripper edge. Lines can also be drawn perpendicular to the gripper edge by using a triangle placed along the straight edge of the table.

The first line scribed on the masking sheet is the paper line (Figure 1). The masking sheet should be marked with a stripper's needle which produces a thin uniform line and yet does not impair the opacity of the paper. Greater accuracy is obtained than with most other scribing or marking instruments and measurements are easily made from this line.

The paper line is the most important line scribed on the masking sheet. The accuracy of this line determines if the pressman will have to move the plate cylinder to get a correct image lay on the press sheet. Other than changing the size of the stock to be fed through the press, moving the plate cylinder to position the image is the most time consuming of all normal press adjustments.

The distance from the gripped edge of the masking sheet to the paper line depends on how much of the plate must go under the plate cylinder clamp so the plate can be mounted. The minimum paper line distance on most small presses is usually one inch or less.

Two Methods of Determining Distance

There are two methods that can be used to determine the paper line distance. Both are based on the mechanical adjustment of the press plate cylinder. The first method is to position the paper line so that the plate cylinder can be moved in either direction, that is, up or down. This allows the pressman to compensate for a stripping error in either direction but this method is not recommended because the stripper, knowing the pressman can move the cylinder either way, may tend to become careless and the paper line will vary over the entire paper line distance.

If the maximum image size is to be printed with the method just described, the plate cylinder will have to be moved in order to raise the image on the press sheet. This makes the method unsound unless only one size of stock is to be printed, and this size must be somewhat smaller than the maximum press sheet size.

Another method of positioning the paper line is to place it the minimum distance from the gripper edge of the masking sheet. The image will then fall high on the press sheet and regardless of the image size it will not be necessary to move the cylinder. Better still, increase this minimum paper line distance by ¼". This will allow sufficient adjustment in either direction. This additional ¼" will lower the image on the blanket down below the low spots which sometimes appear along the leading edge of the blanket after a few months use. These low spots are difficult to prevent and are usually caused by the pull from the blanket clamp or an occasional sheet feeding through the press out of time. This additional ¼" in the paper line distance will do much to increase blanket life.

Regardless of the paper line distance, *it must remain the same on all flats for the same press regardless of the press sheet size.* It has already been shown that, if this distance changes, the pressman must stop the press, clean the blanket, adjust the plate cylinder to get a proper image lay on the press sheet, and readjust to the original positions for the next job, after the plate has been printed.

Each time the plate cylinder is moved, a sheet must be pulled through the press in order to check the image

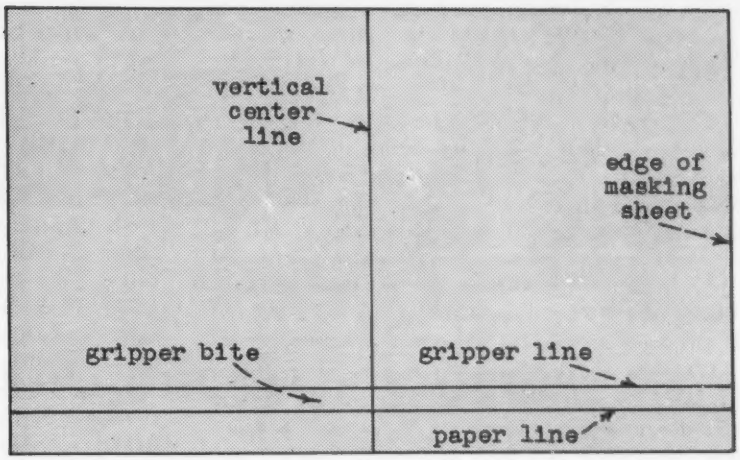


Figure 1.

lay. On presses where no controls are provided for this, it becomes a matter of judgment and frequently the cylinder may have to be moved a second time to get a correct lay. On presses that have no controls for adjusting the plate cylinder — usually the smaller presses — the stripper should remember that a fixed paper line distance becomes even more important.

The Vertical Center Line

The second line scribed on the masking sheet is the vertical center line (*Figure 1*). With the masking sheet still taped to the stripping table, measure along the grgipper edge for the exact center, However, the vertical center line is not scribed at exact center, but 1/16″ to ⅛″ off center toward the normal side-guide side (usually to the stripper's left) and perpendicular to the gripper edge. This allows the press sheet as it feeds down the conveyor board and up against the headstops, to be pushed back to exact center by the side-guide. From this position the sheet enters the impression cylinder grippers at the manufacturer's recommended position.

Several factors determine how much the vertical center line will be off center. One of these is the accuracy to which the stock is cut. If it is badly out of square the feed pile can be moved toward the side-guide. This will increase the side-guide push, but the sheet should feed through the press as near center as possible and the feed pile should not be moved. The image on the plate (by moving it on the flat) should be moved instead.

The accuracy of the vertical center line becomes even more important when the sheet is to be printed on both sides. On work and tumble jobs an error will double itself when printing the back of the sheet. The vertical center line must be exactly *perpendicular to the paper line*. The vertical center line and the paper line are the two basic lines of every flat and all measurements are made from them. Measurements are never made from the edge of the masking sheet.

The Gripper Line

The next line scribed on the masking sheet is the gripper line (*Figure 1*). The gripper line is parallel to the paper line. The distance between them is known as the gripper bite. This bite is determined by the amount of space needed by the impression cylinder grippers to pull the sheet through the press while transfer is taking place between the blanket and impression cylinders.

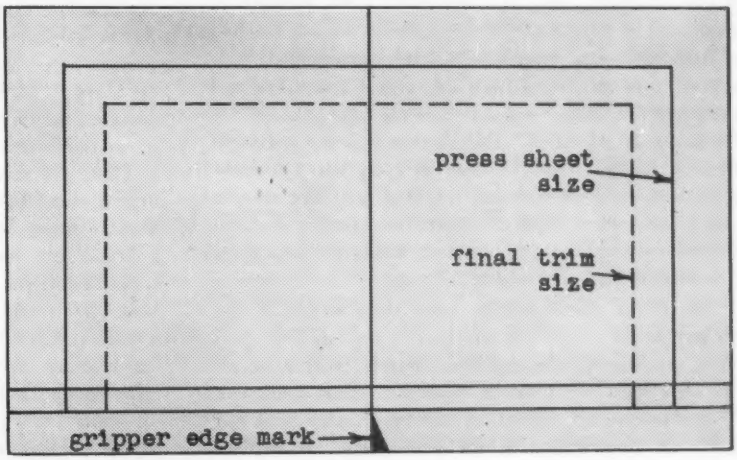


Figure 2.

On a small press the gripper bite is usually a fixed distance of about ¼". On 14 x 20" presses and larger this distance can be varied by moving the head-stop, but ¼" is frequently recommended by press manufacturers.

On presses with adjustable head-stops (usually two in number), care must be taken so that they are in the same general position. One of them must not be in a forward position (large bite) while the other is in a back position (small bite). If this situation occurs, and the head-stop farthest from the side-guide is in a back position (toward the feeder), the sheet will tend to buckle at the leading edge. This will cause bad register and a wrinkle. If thin paper is being run, the condition becomes worse.

When the head-stops are in the positions just described, the side-guide will push the sheet against the farthest head-stop, causing it to buckle and not lie flat. The paper will then wrinkle as it feeds between the cylinders and may cause a low spot in the leading edge of the blanket.

The head-stops are used to increase or decrease the gripper bite and should not be used to straighten an image that is out of position by more than 1/16". The parallel accuracy of the paper line determines the positions of head-stops. If the paper line is parallel with the gripper edge of the flat, then the two head-stops will be in the same position and will be square.

The primary purpose for scribing in the gripper line is to caution the stripper that no image can fall above it and into the gripper bite. The gripper bite is under the grippers of the impression cylinder and no transfer can take place. If this can be remembered, then it is not necessary to scribe in the gripper line on every flat.

Press Sheet Size

After the basic lines are scribed, the press sheet size (*Figure 2*) is added to the masking sheet. This is the actual size of the sheet that is to feed through the press. This size will vary with each job and the stripper will need to know minimum and maximum press sheet sizes and the maximum image trasfer size of the presses for which he is to strip. It would also be well to know the sizes of the plates used on the presses, how they are secured to the cylinders, and as much other press information as possible.

After the press sheet size has been determined, it is scribed in by measuring from the vertical center line and the paper line. *Never measure from the edge of the masking sheet.* It should be apparent that it is not necessary to scribe in the press sheet size on every flat. On many jobs the press sheet size and the final trim size are the same. Only when a job is printed on oversize stock to allow for a trim or for gripper bite, would the press sheet size and the final trim size be different.

The major reason for the press sheet size is to aid the stripper in positioning the controls that are needed in more complicated work. These controls must print on the press sheet but must be outside the final trim size. If controls are not needed, or can be printed inside the trim size, then seldom is the press sheet size needed.

Another obvious reason for the press sheet size is to make certain that all image prints on paper. This keeps ink from transferring from the blanket to the impression cylinder. If this occurs the pressman must clean the cylinder in order to keep the back of the sheet clean.

Final Trim Size

The final trim size (*Figure 2*) is the size of the finished product. Often the press sheet size will be a multiple of the final trim size. An example of this would be two 8½ x 11" final trim sizes on a press sheet of 11 x 17". If the work order calls for a 6 x 9" booklet, saddle stitched, the final trim size will be 6 x 9" and not 9 x 12" although the press sheet size would be a 9 x 12" signature. The sheet is then folded and trimmed to arrive at the 6 x 9" final trim size.

The final trim is important in book work. Since the stripper is often the planner in a small shop, he should allow for a trim on book work when possible. He can do this by learning the sizes in which the stock is purchased. He can then plan for a trim on three sides, which will improve the appearance of the booklet. To trim on three sides after the job is printed is a much better method than cutting the stock to size and discarding the waste. Of course there are occasions when trimming certain booklets is not only uneconomical but impracticable.

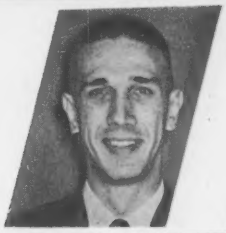
Gripper Edge Mark

To complete the basic layout on the masking sheet, the gripper edge mark (*Figure 2*) is cut out of the sheet. Technically, the gripper edge mark is a control, and not a part of the basic layout, but it is so important to good stripping that it is usually considered with the basic lines. It is used by the platemaker and the pressman to identify the gripper edge of the plate. Without this mark there is no way for the pressman to know which edge of the plate is the gripper and he may mount the plate on the press wrong. Neither can the platemaker position the flat on the plate properly unless the gripper edge is identified in some way.

The gripper edge mark is a triangular section cut out of the masking sheet which permits an image to harden. It is cut out exactly on the vertical center line. Measure up the vertical center line about ¾" and out along the gripper edge about ½". Cut this area out of the masking sheet. This should be done while the sheet is taped down on the table. Make sure the cut along the vertical center line is perpendicular with the gripper edge.

There are many kinds of gripper marks. Some shops drill a round hole for gripper edge identification; a triangular mark, however, not only indentifies but serves a second very useful purpose. It is used by the pressman in positioning the plate on the cylinder from side to side. Most plate cylinders are marked in the exact center. The pressman aligns the triangular mark on the plate with the cylinder mark. This enables him to position all plates in the same place on the cylinder and compensates for variations in platemaking which would otherwise require readjustment of the side-guide.■

NEW PRODUCT REVIEW



Recent Graphic Arts Patents

BY JOHN M. LUPO, JR.
Di-Noc Chemical Arts, Inc.

A PATENT is defined as a government protection to an inventor, securing to him for a specific period of time (17 years for a U. S. Patent) the exclusive right of manufacturing, selling, using, etc., an invention. This invention has to be unique and something which is not presently considered a known part of an art, procedure etc. A review of graphic arts patents will indicate what these inventions are and in some way explain the results of the millions of dollars of research annually spent in the graphic arts.

A new dampening system, press design improvements, novel printing processes and photographic images that develop with heat are but a few of the thousands of patents that enriched our industry last year. Reading through this literature certainly makes one wonder what a litho shop will look like 10, 25 or 50 years from now. Here are a few of the inventions of interest to lithographers, some of which have already been marketed and others which we can expect in the near future.

Litho Printing Plate

A simple chemical treatment of a developed negative, which will form an ink receptive image that can be used as a litho plate, is the subject of a Belgian patent (No. 579,921). The process consists of exposure and developing a special silver emulsion containing a silver image and undeveloped silver salts. Treating the image converts the negative to a printing plate.

A different approach to solve this plate problem is described in another Belgian patent (572,336) where the developed negative is transferred to a printing plate. The non-exposed areas of the negative are chemically reduced and brought in contact with the metal, forming a silver image which adheres firmly to the plate.

Approximately five additional patents have been recently issued utilizing this idea of chemically converting the silver image of a negative or positive to form a printing plate. Needless to say, this would greatly simplify the entire reproduction process.

Press life of a conventional dichromate casein plate coating can be improved by adding nitric acid (in the original manufacture of the coating) to remove chemicals that have a deleterious effect on press life. This is claimed and described in U. S. patent 2,921,852.

A British patent (821,507) uses a silver emulsion containing tanning agents which, after exposure and development, are heated to harden the image. The image is then transferred to a printing plate and it is claimed that this relief image can be used as an offset printing plate.

During 1960 there were countless patents issued on electrostatics and Xerographic processes of platemaking, as well as improvements in diazo plate coatings, and bimetallic plates. The tremendous amount of research on such processes as diffusion transfer, solvent transfer (Polaroid) etc., will in the future no doubt find application in our own industry.

Halftone Screen

British patent 813,116, issued to Klimsch, describes halftone screen almost in contact with the unexposed film, which rotates during exposure in such a manner that the window (or dot pattern) of the screen creates a dot pattern. Tonal reproduction varies with the speed af rotation or the intensity of light.

The important factor noted in U. S. Patent 2,912,325, issued to Kodak for a prescreened material for halftone reproduction (Autoscreen), is the application of the Herschel effect. The latter can be described as an erasure of the exposure by an additional erasure of the exposure by an addition exposure. For example, if an ortho emulsion is exposed in the normal way and then exposed to infrared radiation before it is developed, the original latent image will be erased. All photo emulsions respond to this effect to a greater or lesser degree. The patent description indicates that the film is first given an exposure which creates a latent density of a

halftone screen. The additional exposure given by the cameraman builds up this density to form a visible dot after processing.

Another patent, involving the use of this principle (2,912,325), is titled Direct Positive Prescreened material. As the name implies, a positive will be obtained by exposure to a continuous tone subject instead of a conventional negative. Things are becoming easier all the time.

Photographic Color Masking

In many of the current masking procedures, an unsharp mask is desirable to improve overall sharpness. A film described in Swiss patent 333,959 uses a reflecting backing to bounce light back through the base of the emulsion to cause this unsharpness.

A color correcting mask for color printing is the title of French patent 1,184,561 issued to Gevaert and presumably is the basis of Multimask film. This film consists of three layers, each sensitive to a different color and containing a chemical coupler of another color. Exposure to the original colored copy and processing will yield a single color correcting mask for all the printing colors, removing undesirable contamination in the final reproduction.

An anti-Newton ring coating for color film is described in French patent 1,201,918. The chemicals used may be applied to the film base, or to the light sensitive gelatin layer.

German Application 1,066,090, titled Color Corrected Highlights and Shadows, describes a film having two emulsion layers, each sensitive to different wavelengths of light. Exposure will yield a halftone on one layer and a color corrected mask for highlights or shadows or both on the other layer.

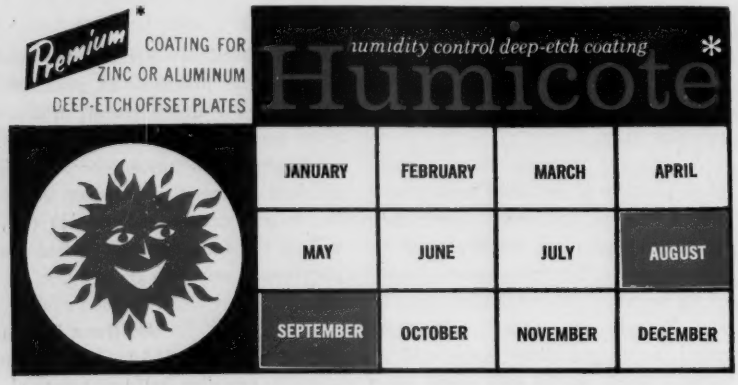
The term "photothermographic" is becoming popular in patent literature. This process involves the use of heat to produce an image. This is described, for instance, in Belgian patent 576,280. In this particular invention the action of heat changes the light sensitive material that has received exposure to a visible image. U. S. Patent 2, 911,299 describes this action by the liberation of nitrogen gas caused by the heat used in developing. The process is dry and requires no liquids. It seems silly to think of an ironing board replacing a developing sink!

In the conventional silver gelatin emulsion it is difficult to decide which is more important — gelatin or silver — for each is so dependent on the other. There are drawbacks to gelatin and a replacement has been sought for years. Recent patent literature cites some complex chemicals which in the future may reduce the inconsistencies and manufacturing problems normally attributed to gelatin.

We normally think of processing chemicals as solutions or liquids of some type; however the use of chemical pastes for processing is in daily use on every Palaroid print. One patent described the use of such pastes for a wide veriety of applications to replace processing liquids.

Conclusion

It takes approximately two to three years after application to obtain a U. S. Patent. Consequently, all of the inventions described above, alnew, are actually a number of years old and the basic ideas ber of years old and the basic ideas may date back further. This makes one wonder what ideas are being thought of today that may change our industry in the near future.■



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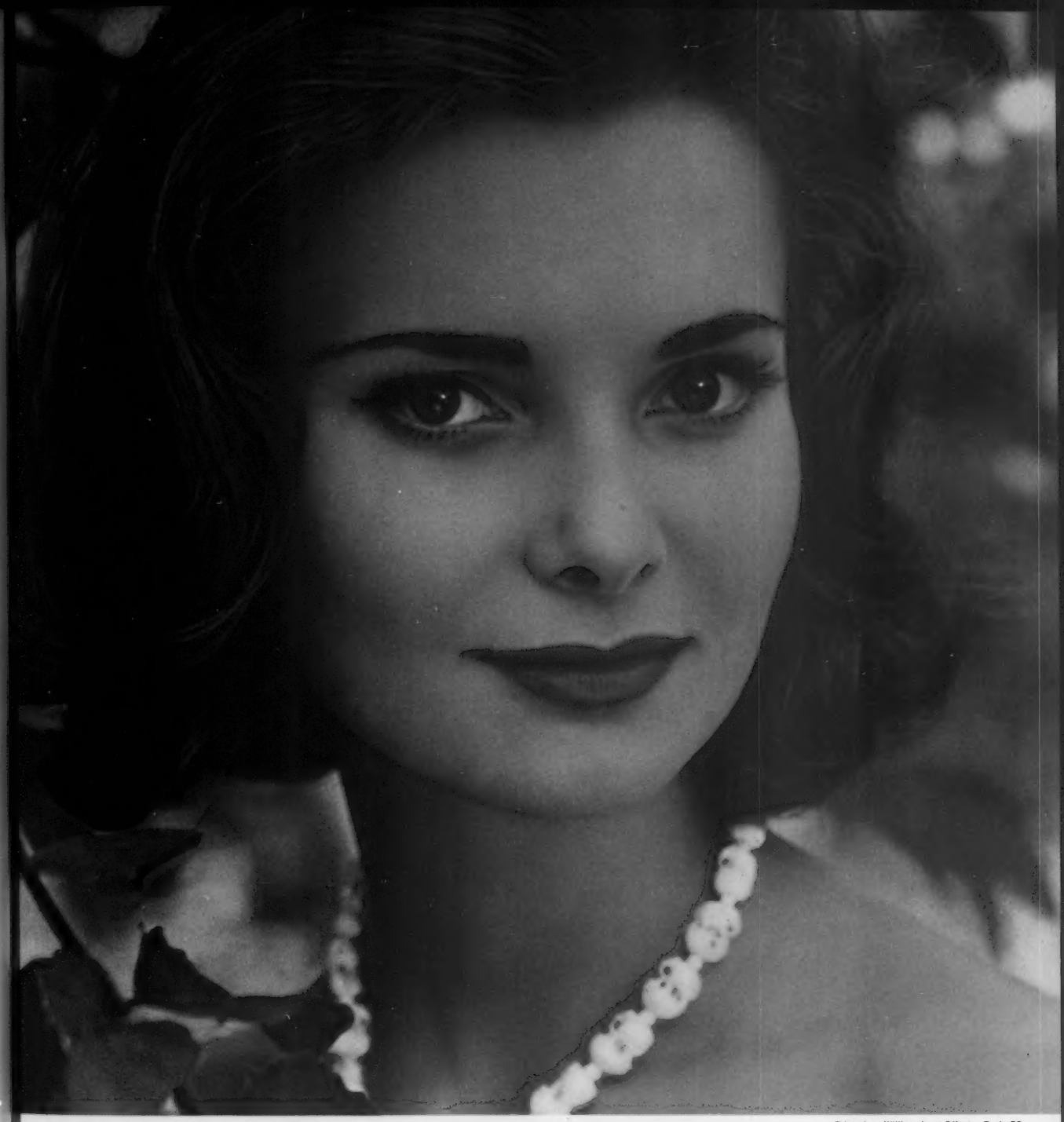

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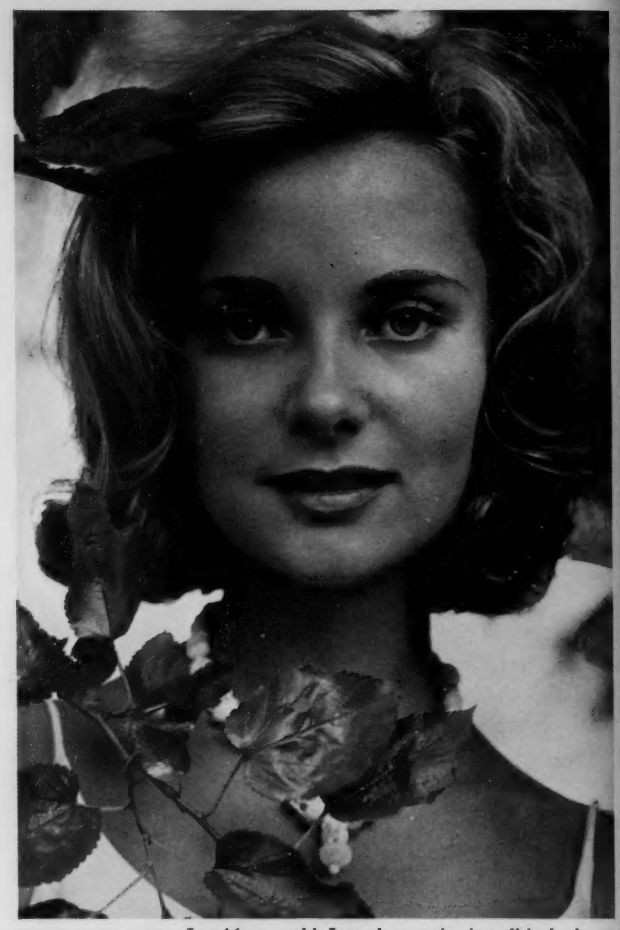

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Philippe Halsman

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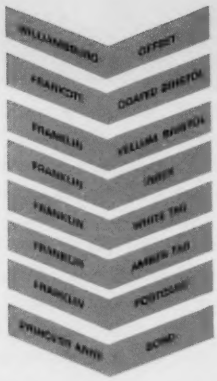

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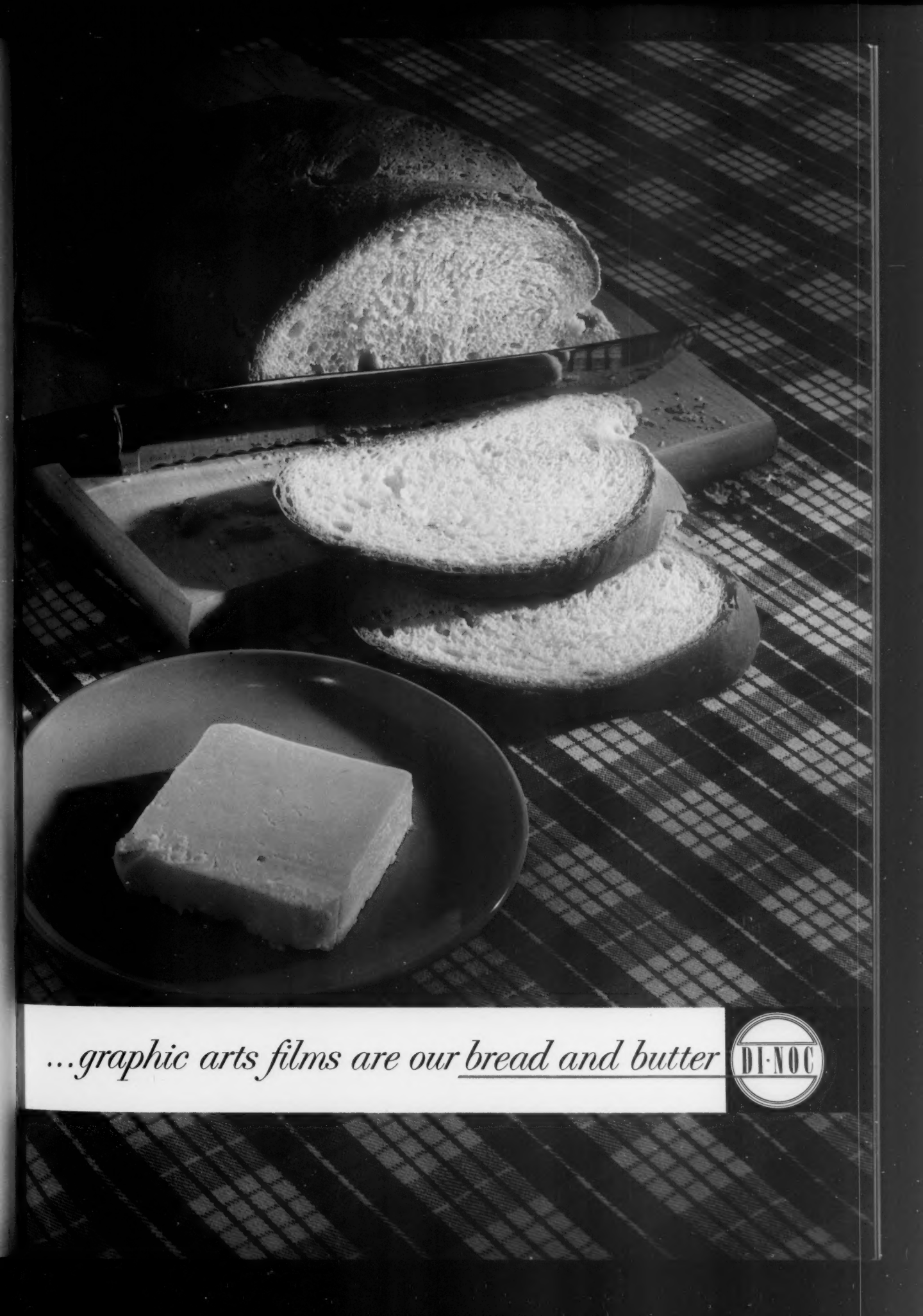
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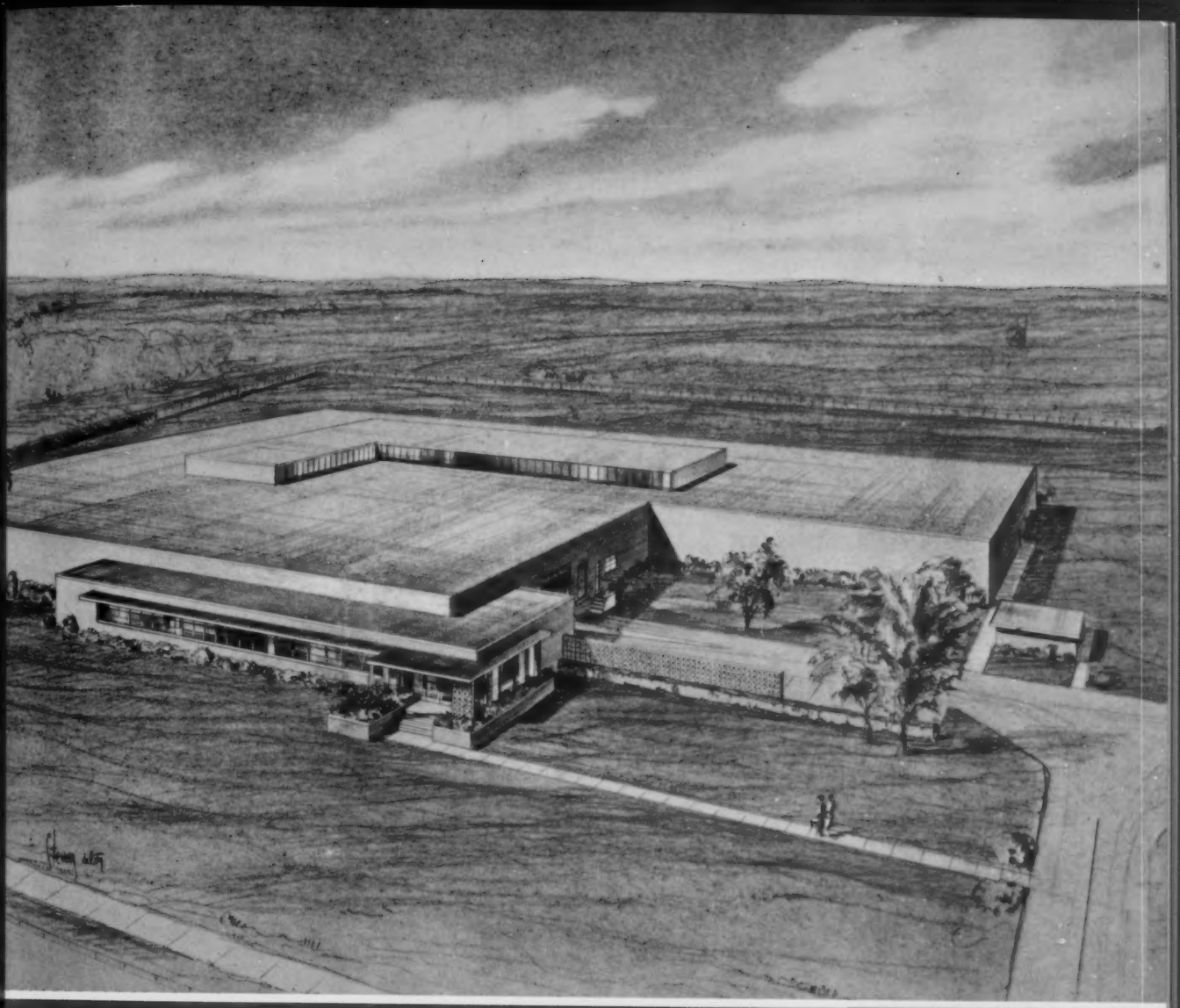

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Dinoline Ortho — *.0045" acetate and .005" polystyrene bases*
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Dinolith Supra Thin Ortho — *.002" polyester base*
... emulsion prints up or down, stays in register, saves wet stripping time

Dinex Ortho — *.004" and .007" polyester bases*
... extremely reduced dots hold density, total-density background retains line sharpness

Dinex Contact — *.004" polyester base*
... broad exposure and development latitude, ideal for step and repeat work

Dinolith Ortho Polystyrene — *.005" polystyrene base*
... best for ruled forms, fake color work, combination plates

Dinographic PN Ortho — *.010" polystyrene base*
... stable film base excellent for duotones, combination plates

Dinographic Film PN Contact — *Clear or Matte .010" polystyrene base*
... a tough-based specialist for contact line work

Dinolith Contact — *.005" polystyrene base*
... very slow emulsion, expose multiple line or halftone shots up or down

Dinographic Special Matte Translucent White — *Projection or Contact — .0085" polystyrene base*
... easy reflected light viewing and copying, relatively short exposures

Dinographic Special Matte Opaque White — *.0085" polystyrene base*
... extreme dimensional accuracy, matte surface

Dinolith Commercial — *.005" polystyrene base*
... unusually wide tone gradation, medium speed

Dinographic Process Pan — *.010" polystyrene base*
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... puts "snap" into intermediates and second originals

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... extra-slow emulsion broadens development latitude, safelight tolerance

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The Bouer Paper Company.....Milwaukee
CANADA
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(*Continued from Page 6*)

If you could furnish such information, your reply will be greatly appreciated. Many thanks from an ardent reader of *Modern Lithography*.

Glenn M. Roseman
Snyder Printing and Lithographing Co.
P. O. Box 249,
Concord, N. C.

The best suggestion we could make to help you get details about the degrees offered by southern colleges and universities in the field of printing would be to contact Sam Burt, Education Council of the Graphic Arts Industry, 1411 K Street, N. W., Washington 5, D. C. Mr. Burt is in close touch with the educational programs offered by the various schools and colleges in this country. —Editor.

Web-Offset Reprint

Dear Sir:

We are keenly interested in web-offset development for modest circulation daily newspapers and would be grateful if you could let us have any numbers of your magazine with information on this subject. We have your issue of June, 1959 and wonder if you have an up-to-date survey of web-offset along the same lines.

M. Ronnen,
The Jerusalem Post,
Jerusalem, Israel

John B. Scouller is currently revising his series on web-offset. The up-to-date summary of equipment appeared in our July issue. This issue contains another article by Mr. Scouller, along with an informative discussion of newspapers by offset by C. M. Yongue. A revised edition of Mr. Scouller's series on web-offset will be forthcoming in several months. Watch these pages for an announcement. —Editor.

HT's With Snap, Brilliance

Dear Sir:

Recently I have seen some very impressive halftones produced by Litho-Krome Co. of Columbus, Ga. Their snap and brilliance and shadow detail resembled an actual photograph.

Do you have or know of any information available on making this type of halftone?

Ira McDaniel, Jr.
Box 38,
Brewerton, N. Y.

J. Tom Morgan, who developed the technique at his Litho-Krome plant, described the method—using two impressions for black—in an article entitled "Black and White: Forgotten Product," in the December, 1960 issue of ML, page 32. The fidelity of these reproductions makes it extremely difficult for even a trained eye to distinguish the printed product from a photograph at a short distance.—Editor.■

25 Years Ago In ML

AUGUST, 1936—Advance registration for the NAPL convention in Atlantic City points to the largest gathering of photolithographers ever held . . . Questions to be answered at the convention include: "What is the cost of paper negatives, as compared with film and wet plate?" . . . "We cannot seem to get a good black ink. What can we do to get one?" . . . "What kind of grain is best?"

* * *

"The trend of the times—Webendorfer Web Offset Presses." (Advertisement) . . . "You can put the law of suggestion into effect without uttering one word. For instance, if beside an inexpensive photo-offset combination run job, you place a similar piece done on a fine offset stock of fancy finish, your prospect will favor the better example; especially if you treat the better job with due reverence, handle it lovingly." (William Wolfson, Ardlee Service, in a feature article.)

* * *

For Sale — Harris Press, two-color, 41 x 54", eight years old, $13,500. . . . Harry H. Grandt has been transferred to the New York office of Roberts & Porter, as manager.

10 Years Ago

AUGUST, 1951—An editorial praises ALA resolution prohibiting Communists from holding office in the union, but strongly opposes a resolution forbidding ALA members to join litho clubs.

* * *

Buffalo will be the scene of the NAPL convention, Sept. 5-8 . . . With the Korean truce undecided and business in general in the summer doldrums, there was little activity among the regulation-makers in Washington last month. The expected tailor-made price ceiling regulation for the graphic arts still had not been issued at press time.

* * *

Walter Blattenberger has left Dando-Schaff to join Zabel Brothers in Philadelphia. . . . Two Philadelphia platemaking firms, Colorcraft Co. and Lithoplate, merged last month. . . . George Loops, 75, cameraman with Goes Lithographing Co., Chicago, died recently. . . . Miehle is introducing a new offset press this month—Miehle 29.

5 Years Ago

AUGUST, 1956—Metal decorators plan their 22nd annual convention to be held in Atlantic City, Oct. 15-17. . . . A. E. 'Gus" Giegengack, former public printer, retired recently from his position with Army Times Publishing Co.

* * *

Harry A. Porter, senior vice president of Harris-Seybold Co., retired as a company officer June 30. Mr. Porter, with more than 50 years of service to the graphic arts industry, now is a consultant to the company.

* * *

Stecher-Traung, Rochester, recently received the first unit of a Miehle four-color press, costing $300,000. . . . Edwin Lennox, retired president and chairman of American Colortype Co., Chicago, died July 9.■

THROUGH the GLASS

IN case you are planning to try your luck at the seventh annual fishing party of the Washington Litho Club at Solomons Island, Md., Aug. 19, better take along your own refreshments, unless you have a very strong stomach. The announcement for the popular event states that ". . . refreshments will be provided on each boat, including bait, etc."

•

Lithographers will no doubt be interested in the nostalgic exhibits at the new Printing and Packaging Museum established by the Design Laboratory, Container Corporation of America, in Chicago. The exhibits provide interesting, and often amusing, examples of changes in style and design through the years. A representative selection of these exhibits—dating from the 19th century to the present — is shown in the accompanying photograph.

1. Lucky Strike cigarette package as it appeared before and after "Lucky Strike green" went to war.

2. The 1880 gift cigar box corrects the impression that laminations and combinations of materials in packaging are contemporary developments.

3. A patent medicine packaging style long outdated. This design could not function under today's merchandising conditions (not to mention federal laws) — copy carries across three panels of the package and much of the copy's message would be lost if the product were shelved adjacent to other packages.

4. A patent medicine which claimed to be a cure-all for an astonishing variety of ailments. The package illustrates rather simple and direct copy with a somewhat ornate trademark.

5. This German pin package serves as an early illustration of convenience packaging in that the package performs not only a retail function, but also serves the consumer as a pin cushion. The unique package was handmade and all 196 pins were inserted individually.

6. The Pasta Diva macaroni package — imported from Italy — provides a rare example of a package being censored by U. S. officials.

7. Handmade, circular earthenware vessel was a variation of the familiar canteen. Supposedly designed to fit around a horseman's arm so that he could drink without using his hands.

8. A Jonesville, Michigan, drug company used the game illustrated as an advertising premium. The box was apparently used for cheese. Advertising copy illustrates several typographical styles which have been revised in recent years.

9. Omar cigarette advertisement underlines changing patterns in etiquette and social acceptance. When this ad was used, it was considered fashionable to blow smoke toward a companion.

Mail bags are stacked high in the warehouse of Horn Ohio Co., Cleveland direct mail agency. They are just part of a six-part campaign for Harris-Seybold Co., entitled "A tip from one lithographer to another." A split shift of nine Horn employes worked 300 hours to complete the mailing, under special arrangements with the post office's Lakefront Terminal. In all, 1,600 mail bags, piled 18 feet high, covered 6,500 square feet in the Horn warehouse. A canvas chute transported the bags from a second floor warehouse window into a tractor trailer.■

Next Month: Special NAPL Convention Issue

NAPL Program Lists Talks On Sales, Leasing, Photography, Web-Offset and Labor Relations

WHAT are the advantages of using roll film? What factors should be considered in lithographing the photograph? What determines whether a plant registers a profit or a loss? What will the next round of labor negotiations bring?

All these questions, and many more, will be answered next month when the NAPL holds its annual meeting in New York, according to the program, which was released at press-time.

The National Association of Photo-Lithographers will hold its annual convention at the Hotel Commodore, Sept. 27-30. Concurrent with the convention will be the exhibit of equipment and supplies, which will be the largest and most varied in the history of these meetings.

Although William J. Stevens, perennial moderator at the Saturday technical sessions, will not be in his accustomed role, he will be very much in evidence at the convention, his first since assuming the position of executive vice president of the association from Walter E. Soderstrom, who retired from the post last fall. Mr. Soderstrom, who continues with NAPL as a consultant, will address the convention on the topic "Labor and Management and Customers." He will consider such problems as "Where do customers fit into the labor picture?" and "What is the next round of demands going to be?"

Opening the convention, on Wednesday afternoon at 2 p.m., will be the welcome by president J. Tom Morgan. Raymond Blattenberger, who retired earlier in the year as Public Printer, will offer the invocation and E. A. Terhune, president of Sales Development Institute, Philadelphia, will open the business session with a talk on "A New Approach to Selling Lithography."

The advantages of roll film will be aired by Eugene B. Martens, of Boro Offset Corp., Brooklyn, and S. G. Hall, of Eastman Kodak, will complete the afternoon program by introducing a new Kodak film entitled "A Look at Photo-Lithography."

On Thursday morning three talks are scheduled: "Business in 1970—The People vs. Equipment," by Harry E. Brinkman, president of the Education Council of the Graphic Arts, Inc.; "To Lease or Not To Lease," Milton Hudders, Recording & Statistical Corp.; and "What Develops Profit or Loss in Litho Plants?" Frank R. Turner, NAPL cost accountant.

In his keynote address, opening the Thursday afternoon program, president Morgan will offer suggestions for "Meeting the Challenge of Change." Three talks on photography will be given by Victor Keppler, photographer; Glen Peterson, Peterson Color Laboratory, Inc.; and Charles Taylor, Litho-Krome Co., Columbus, Ga. Their topics will be, respectively, creating the photograph, processing and printing it and lithographing the photograph with a question period to follow.

On Friday morning camera, ink and web-offset problems will be discussed by J. M. Centa, DuPont; Walter Surgeon, Sun Chemical Corp.; and Charles W. Cook, Haynes Lithograph Co. Mr. Soderstrom's talk will conclude the session.

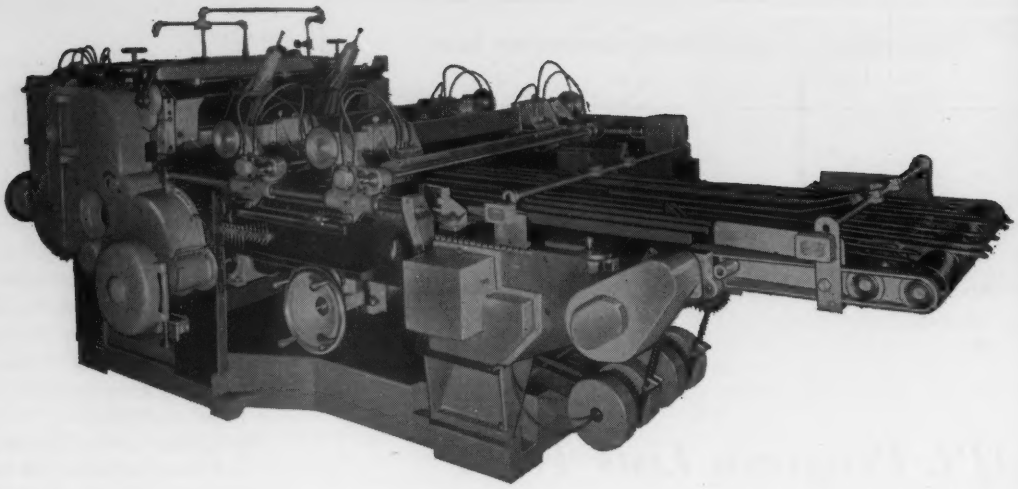
After a luncheon that will feature an address by Dr. Darrel F. Linder, humorist and industrial consultant, the afternoon will be open to provide lithographers an opportunity to visit the exhibit area.

John L. Kronenberg, of S. D. Warren Co., a frequent participant in NAPL technical sessions, will moderate the question and answer program Saturday morning and afternoon. Participating on the program with him will be the following:

CAMERA—Philip Quartararo, Kipe Offset Process Co., Inc.; PLATEMAKING—Louis Federmack, Barnes Press, Inc.; PRESS—Peter Rice, Capricorn Litho Co.; INK—Vincent Subenski, Seaboard Printing Inks, Inc.; PAPER—Harry Baldwin, Champion Paper & Fibre Co.; and TECHNICAL—Michael H. Bruno, Lithographic Technical Foundation.

The annual dinner dance and entertainment will be held in the Commodore ballroom on Friday evening. A special three-day program for the ladies has slso been arranged, according to Mr. Stevens.

Exhibits will be open Wednesday and Thursday from 9 a.m. to 9 p.m., on Friday from 9 a.m. to 5 p.m. and on Saturday from 9 a.m. to 1 p.m. Lithographers need not be members of NAPL to attend the convention, the NAPL announced.■



Now—*in excess of 100 sheets per minute!*

Thirty years ago the first Wagner Spot Coater was supplied to the Metal Decorating Industry. Since then, the requirements of the industry have created demands for higher speeds—larger sheets and increased accuracy of register. These demands have been met by the Wagner Model A Lug Type Spot Coater, shown above, for sheets up to 42″ x 42″.

Today — in many plants — the Model A is being operated at speeds in excess of 100 sheets per minute. The Lug Type Conveyor Table carries the sheets from automatic feeder or rotary press to the coating rolls.

Thus, Wagner has continued to progress with the Metal Decorating Industry. Recommendations concerning the use of the Model A or other units are offered without obligation.

When thinking of Progress—think of Wagner!

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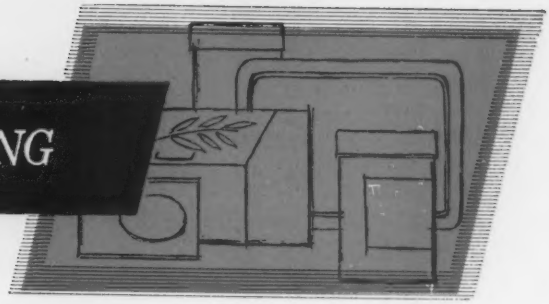
Wagner Litho Machinery Division
NATIONAL-STANDARD COMPANY
Secaucus, N.J.



Lubrication for Metal Decorating

Texaco, Inc., is both a prominent user of metal decorating and an important supplier of lubricants for equipment used by decorators and can makers. This article, reprinted with permission from the company's publication Lubrication, *(April, 1961) outlines the history of canning and emphasizes the importance of an adequate lubrication program to insure maximum efficiency of metal decorating equipment.*

THE process of converting a sheet of bare metal into brightly lithographed multicolored cans of many sizes and shapes, filling them with an exact volume of oil and closing them for shipment at a rate of 600 cans per minute — 10 cans per second — may seem fantastic, but is real. One must look twice to believe it.

This remarkable achievement has been accomplished by the industry's development of rapidly-operating precision machines to accomplish each of the many steps in this conversion process. The trouble-free operation of each of these units depends upon a well organized lubrication program which insures the application of the right amount of the right lubricant at the right place and right time.

The petroleum industry is one of the major consumers of tin cans but it cannot claim credit for the rapid strides made in can making and filling equipment. This belongs to the food and beverage industries, which use approximately eighty per cent of all cans manufactured.

Oldsters recalling the turn of the century can reminisce on the passing of the bulk handling of many common items. It is with some regret that pickle and cracker barrels, wooden candy pails and coffee and sugar bins have disappeared from the village store, but the wooden "stove oil" barrels to which frequent pilgrimages were made to fill gallon cans for replenishing lamp and stove reservoirs will not be missed.

These are only a few of many similar sights that have disappeared with the passing of a period which has been marked by great progress in the packaging of commodities in sealed containers made from glass, aluminum, plastic or steel.

This evolution is not surprising since it had as its specific targets the elimination of leakage and spoilage, while promoting the availability of otherwise perishable products, easy handling and convenience of use.

The single factor contributing most to the miraculous growth of the can industry is the ability of these containers to preserve food products for long periods of time. This not only insures a steady food supply for a rapidly increasing population in the urban areas, but permits farmers to raise much larger crops for much wider distribution to more markets.

Cans also enhance the enjoyment of eating by making seasonal and foreign delicacies widely available throughout the year. They also make food available to arid and frigid areas which are not self sufficient in this respect.

While the can and food industries are inter-dependent, the convenience and economy of can packaging for other products has given considerable impetus to the can industry. The marketing of petroleum products is one of the more important of these.

In spite of the present importance of the can in this "tin can" civilization, these containers do not enjoy an unusually long history. They are a very good confirmation of the adage, "Necessity is the mother of invention."

Development of Can

Late in the eighteenth century the French Government recognized the importance of preserving food to sustain its armies fighting in foreign lands. A sizeable reward was offered to the first one accomplishing this objective. It seems only logical that the winner was an experienced brewer, pickle maker and vintner, one Monsieur Nicholas Appert. His solution, equally logical, was to preserve food in glass bottles, the same as wines. Appert conducted many experiments in which partly cooked foods were placed in bottles which were then

sealed with corks and immersed in boiling water to complete the cooking and sterilization process. More than fifty foods preserved in this manner retained their flavor and wholesomeness for many months.

By 1810, Appert was well versed in the preservation of foods in bottles. In that year King George III of England granted a patent to Peter Durand for his idea of preserving food in "vessels of glass, pottery, tin or other metals or fit materials." The broad material coverage of this patent is responsible for Durand being dubbed "the father of the tin can."

The early years of the nineteenth century found the canning industry trying out its "sea-legs" with the French bottling and the English canning food for their respective armies and navies. Canning was introduced to America in 1812 by two Englishmen who opened two small canning plants on the East Coast. Glass jars were used as containers for the first twenty-five years, when economies dictated a switch to the cheaper and more durable tin canisters or "cans."

The can industry is similar to many others in that its first products were laboriously made by hand. In the early days of the industry, a craftsman cut the body and end blanks from a sheet of tinned iron by hand with a pair of tin shears. The body was bent into a cylinder and the side seam soldered. The bottom and top blanks were then soldered in place. The tops of these early cans had a large concentric opening through which the cans were filled and then finally sealed with a soldered circular metal disc. An experienced craftsman could make as many as six cans an hour.

The use of cans was adopted by other industries as an expedient method of packaging. The increased demand for cans promoted the development of improved manufacturing methods and by 1900 cans were being made at a rate of fifty a minute. During the last sixty years the accumulated efforts of all industries allied with canning has resulted in greatly improved equipment and techniques that permit the manufacture of over 42 billion cans annually. Laid end to end these cans would reach across the United States approximately 1000 times, or circle the earth about 100 times. The beneficial effects of this impetus upon the economic status of all types of food producers, the steel industry, the machine manufacturers and labor is obvious.

18% for Non-Food

Of the 4.6 million tons of steel that are consumed annually in metal can manufacture, 18 per cent is used for non-food items of which petroleum products is the most important. To the countless number of cans used in packaging petroleum products must be added the large number of metal drums used for the same purpose. The ready acceptance and spontaneous popularity of metal containers for the packaging of these products resulted from:

1. Economies accruing from low material, labor and shipping costs.
2. Versatility in respect to size and design.
3. Ruggedness, which tolerates rough handling.
4. Packageability.
5. Printability, which permits attractive packages.
6. Complete sealing, which insures against tampering, contamination or adulteration.

The industrialization that has been accelerating during the past few decades has required ever increasing quantities of petrolem products—and many more cans and drums to package them. While modern containers are made in the same general manner as the original canisters, changes in seam design and replacement of hand work by precision machinery in all phases of operation have made it possible to supply the billions of cans required annually by the industry.

The fabrication of a plain can is not a simple one step process, but rather an integration of many unitized operations, each of which requires well designed sturdy machines which will perform their functions at high speeds with great accuracy.

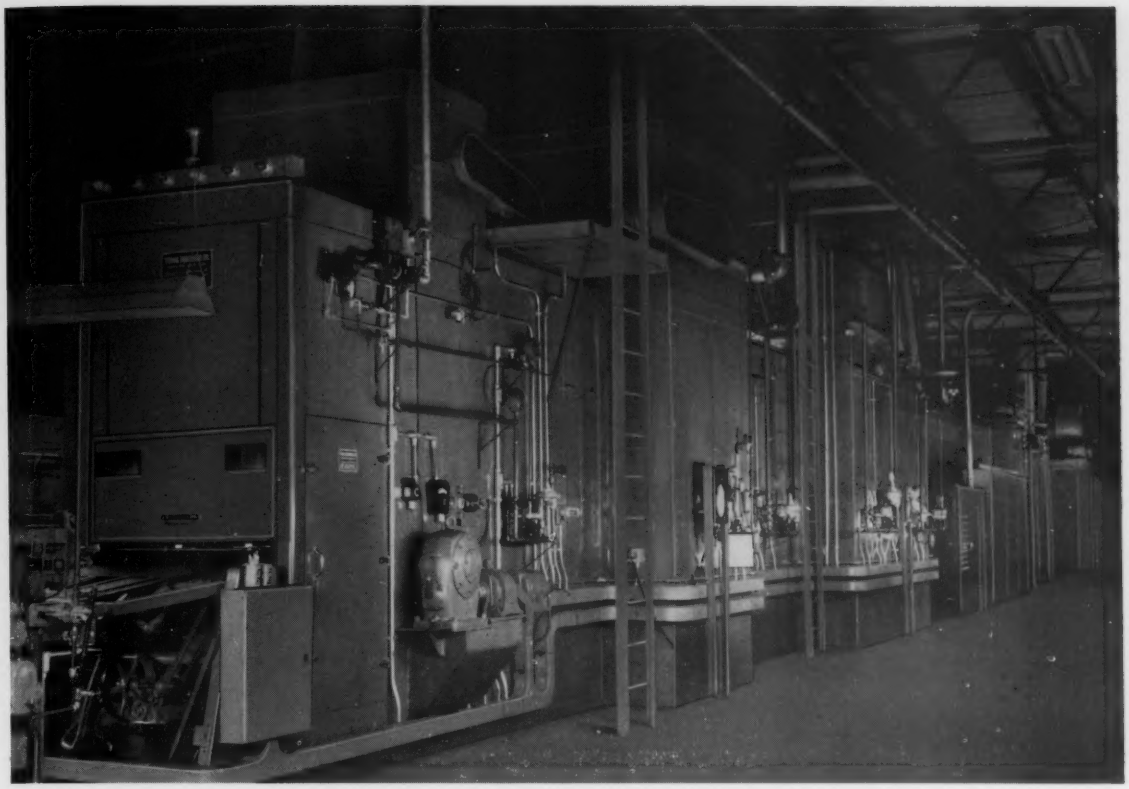
The raw material for a can is steel sheet of various gauges which may or may not be coated with tin or other protective materials as dictated by its intended usage and the material it will contain. The size of the container to be made governs the thickness of the material to be used, the larger containers requiring heavier gauge material to insure structural stability.

Consumer convenience is a vital factor in modern merchandising and accounts for the hundreds of varieties of different types and sizes of packages in use today. The large number of petroleum products having consistencies ranging from gasoline to high softening point asphalt pitches and their many specific applications dictate many packages. It is interesting to note that the domestic crimped top five gallon oil containers must be replaced in many export areas by slotted lug cover containers which serve as pails when emptied.

Regardless of its size and shape, a can is made by slitting the body and ends from the sheet metal, forming these to the proper shapes and assembling them. This simple description does not take into consideration a number of very exacting intermediate operations required on each of the component pieces to insure a serviceable container and which require special machines, but it will serve to clarify the general processing steps and equipment used.

It should be pointed out that the lubrication of can making equipment is not as critical as it is in some industries, where high operating temperatures and pressures prevail and where lubricant contamination is a problem. Lubrication is extremely important, however, as oil-starved bearings result in wear and misalignment which cannot be tolerated. Only slight deviations from designed part dimensions may produce poor joints and seals which will result in an abnormal percentage of unusable "leakers."

There are few industries where a rigid system of maintenance lubrication pays more dividends. In the can industry, as in all others, the regular application of the right amount of the right type and quality of lubricant in the right condition to the right place at the right time will prevent excessive mechanical wear, poor qual-



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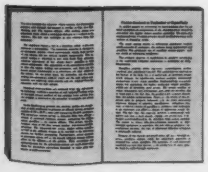

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ity of product, excessive spoilage and costly downtime and equipment repairs.

The lubrication of the many pieces of equipment required to produce metal cans and drums is unique in respect to the types of lubricants that are required and the importance of lubricant application. In spite of the rather complex synchronizing mechanisms which characterize many of the fast operating units, the entire plant can be lubricated with only a few types of oils and greases.

In fact there are only a few places where lubrication is critical with respect to the type of lubricant used. Lubricant application, however, is critical in that the operations require frequent application of small quantities. Excessive amounts of lubricant may be thrown onto the sheet parts being processed and have a detrimental effect on subsequent lithographing and sealing operations.

The initial step in converting sheets of steel into can bodies, bottoms and tops is the application of the multicolored designs and printing which decorate the package and identify its contents. This operation uses five specific pieces of equipment: metal sheet feeder, lithographing press, bake oven, slitter and body maker.

Metal Sheet Feeder

This unit is used in all operations where flat sheets are fed to machines for processing. As indicated in Figure 1, a stack of metal sheets weighing as much as four tons is placed on a platform which automatically elevates and maintains the top sheet at the correct height for feeding. An air jet impinging on the sheet edges helps to separate the top sheet. Rubber suction cups located on each side of the feeder, and evacuated by a vacuum pump, then grip it, raise it and move it forward into the machine to which the feeder is attached. These units are designed to feed sheets at a rate of 150 per minute and operate much like their cousins in the paper-printing industry.

Metal sheet feeders have many moving parts which would normally require frequent lubrication; however this maintenance is greatly simplified by use of oil-impregnated porous bushings, sealed anti-friction bearings and graphite bronze plain bearings. Points requiring daily lubrication may be equipped with oil or grease cups, grease fittings, or automatic lubricators set to deliver small increments of oil at specific intervals.

Gears and bearings on feeders are not critical in respect to the types of lubricants: an oil having a viscosity of about 550 SUS @ 100°F. (for example an SAE 30 motor oil) and a multi-purpose grease of NLGI No. 2 grade are usually quite adequate.

The self-contained air pressure and vacuum pumps in feeders are more critical in respect to lubrication. Care must be exercised to insure sufficient oil to maintain pressure or vacuum. Pumps must be flushed periodically to remove accumulations of foreign material and compressor oil must be kept out of the discharge air stream lest it soil the metal sheet and impair its printing characteristics.

Lithographing Press

These presses are either single or two-color units (like that shown in Figure 2) for the application of one or two colors respectively to sheets that have previously been given a white base coating. A typical unit consists of plate, blanket and impression rolls for transferring the enamel from the reservoir to the design plate and thence onto the sheet being processed.

A number of can bodies are printed on a single sheet and subsequently separated. When more than one color is printed, the successive color plates must be precisely registered to prevent overprinting. The required synchronization between presses or units within the same press is obtained by gear drives.

Substantial construction, use of wear resistant metals, and efficient lubrication are all mandatory for efficient press performance, though lubricant types are not critical. A multipurpose grease of NLGI No. 2 grade or a lubricating oil having a viscosity of about 550 SUS @ 100°F. is adequate for bearing lubrication. Since gears are conservatively loaded, a straight mineral oil having a viscosity of about 3000 SUS @ 100°F. is usually adequate.■

(To be concluded next month)

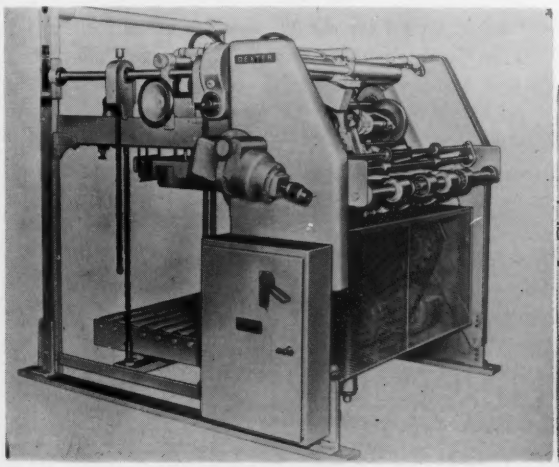
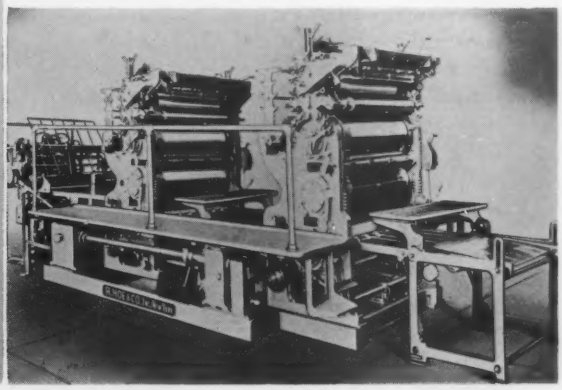


Fig. 1 (left) Dexter sheet feeder.
Fig. 2 (below) Hoe metal decorating press



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A. J. Paradiso, President, Lithographing Printing Mailing Corporation, New York

That's how A. J. Paradiso, president of New York's Lithographing Printing Mailing Corporation, opened his letter. He then gave us some details:

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Craftsmen Emphasize Offset

King

Livesey

HEAVY emphasis on offset is the most noteworthy aspect of the convention program for the International Association of Printing House Craftsmen, which is underway in Chicago as this issue comes off press. The convention is being held in the Palmer House Hotel, Aug. 6-9.

A full day, Aug. 7, is being devoted to an offset clinic, with Thomas P. Mahoney, vice president of Inland Lithograph Co., as moderator.

Among the speakers on the clinic are J. Tom Morgan, president of Litho Krome Co., Columbus, Ga., whose topic is, "A New Approach to Black and White and Color." New developments in offset papers—sheet and web, is being discussed by Harry R. Baldwin, of Champion Paper and Fibre Co., and C. R. Williams, of Densichron Division of Welch Scientific Co., is covering the subject of reflection densitometers as a press-room color control aid.

The afternoon portion of the clinic will be devoted exclusively to web-offset, with the following talks on the program:

"The Past and Future of Web-Offset," by G. W. Bassett, vice president of sales for the Miehle Co., Division of Miehle-Goss-Dexter;

"Thirteen Years of Web-Offset Drying Growth," by B. Offen, B. Offen Co.;

"Web-Offset—The Pros and Cons of Living in the Past," by Richard Dunbar, Inland-Magill-Weinsheimer Corp.

The convention opens Aug. 6 with a keynote address by the new public printer, James L. Harrison, who will outline "New Frontiers for an Essential Industry."

Addressing the Monday luncheon meeting is Herbert B. Livesey, Jr., executive secretary of the National Association of Printing Ink Makers. His topic is "What the Public Thinks of You and Why." Club awards and talks on Craftsman programs complete the luncheon program.

A club management workship is on the schedule for Monday afternoon, concurrent with the second portion of the offset clinic. In the evening, Howard N. King, typographic consultant to the Intertype Co., moderates a typographic clinic, with the following speakers: Charles Felton, *Messenger of the Sacred Heart;* A. R. Tommasini, University of California Printing Dept.; R. Hunter Middleton, Ludlow Typograph Co.; and Burton Cherry, Burton Cherry and Associates. Mr. King will discuss photocomposition.

Also on Monday evening, a bindery clinic is on the program, with Arthur E. Blumenthal, of W. F. Hall Printing Co. as moderator.

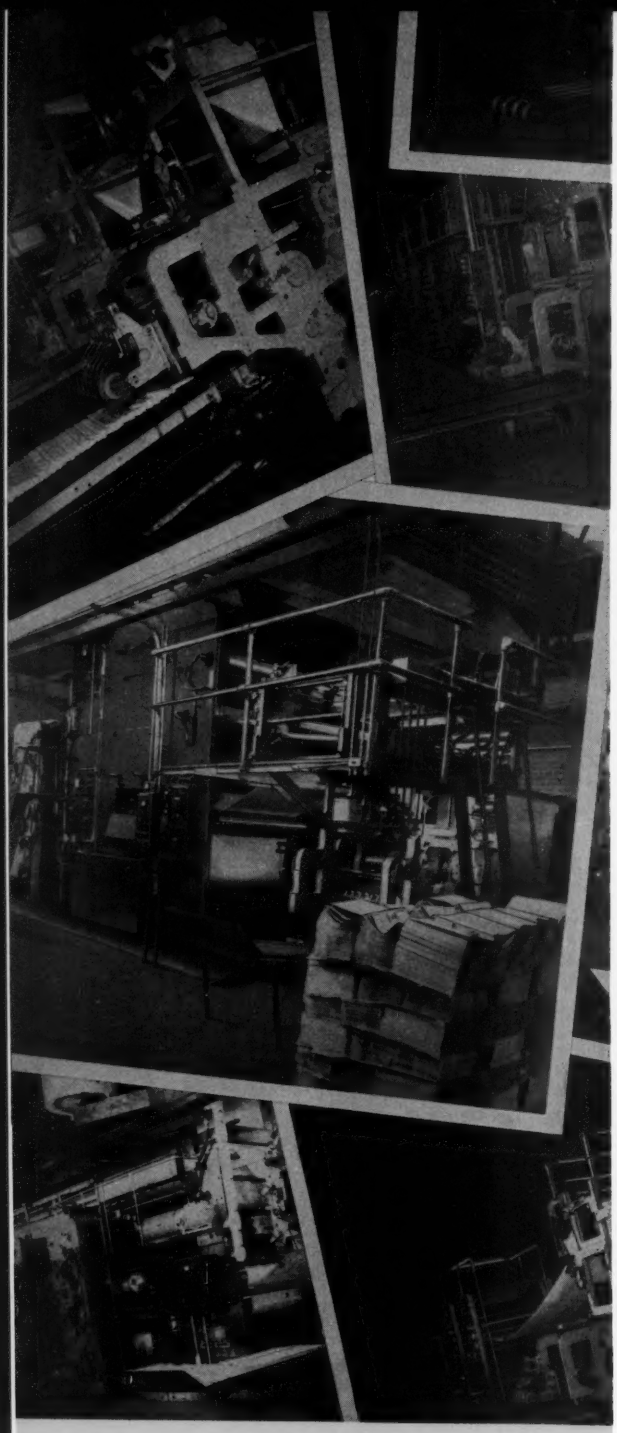
Tuesday is being devoted to plant visits to W. F. Hall Printing Co., Chicago Litho Plate Graining Co., Rand McNally & Co., Robertson Photo-Mechanix, Inc., Harris-Seybold Co., and R. W. Borrowdale Co.

Letterpress receives attention on Wednesday, at a two-hour clinic in the morning. General theme is "Must Letterpress Take a Back Seat," with a number of speakers offering information on new products and techniques being utilized by letterpress plants. Speaker at the Printing Week luncheon is R. Carl Chandler.■

Harrison

Mahoney

Chandler



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● *Indicates those companies who have purchased from 2 to 10 ATF Web Offset presses.*

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George Banta Co., Inc., Menasha, Wisconsin ●
Baptist Standard Publ. Co., Dallas
Brown Prtg. Co., Inc., Waseca, Minnesota
Canadian Prtg. & Lithographing Co., Ltd., Montreal
Courier-Citizen Co., Lowell, Mass.
The Craftsman Press, Inc., Seattle
Daily Journal of Commerce, Portland, Oregon
Danner Press, Inc., Canton, Ohio ●
R. R. Donnelly & Sons Co., Crawfordsville, Indiana
Edwards & Broughton Co., Raleigh, No. Carolina
The Emerson Press, Inc., Pittsburgh ●
Evergreen Press Ltd., Vancouver, B. C.
Fawcett-Dearing Prtg. Co., Louisville ●
Foote & Davies, Inc., Atlanta ●
General Motors Corp., Detroit ●
Good Publ. Co., Fort Worth, Texas
Great Eastern Color Lithographic Co., Inc., Poughkeepsie, N. Y.
Haynes Lithograph Co., Silver Springs, Maryland
A. B. Hirschfeld Press, Denver
Lloyd Hollister, Inc., Wilmette, Ill. ●
Inland-Magill Weinsheimer Corp., Chicago ●
Jensen Prtg. Co., Minneapolis ●
Judd & Detweiler, Inc., Washington, D. C. ●
R. J. Kittredge & Co., Chicago
W. A. Krueger Co., Milwaukee
Latham Process Corp., New York City
Los Angeles Lithograph Co., Inc., Los Angeles

Manz Corp., Chicago
Mercury Lithographing Co., Brooklyn
Metropolitan Press, Seattle
Mid City Press, Philadelphia ●
Midwest Lithographing Co., Minneapolis ●
The Motschall Co., Detroit
Murray Printing Co., Forge Village, Mass. ●
Pacific Press, Inc., Los Angeles ●
PAK Prtg. Services, Detroit ●
Perry Prtg. Co., Inc., Waterloo, Wisconsin ●
Phillips & Van Orden Co., San Francisco
Quality Reproductions Corp., Miami ●
Rand McNally Co., Skokie, Illinois ●
Ronalds Federated Ltd., Montreal
Rosen Prtg. Co., Buffalo
Rotary Offset Printers, Anaheim, California
The Safran Prtg. Co., Detroit ●
Shelby Lithographing Co., Inc., Detroit
Smith & Setron Co., Inc., Cleveland
Spaulding-Moss Co., Boston
The Standard Publ. Foundation, Cincinnati ●
Stecher-Traung Lithograph Corp., San Francisco
John S. Swift & Co., New York City
U. S. Playing Card Co., Cincinnati
Web Offset Publ. Corp., Long Island City, N. Y. ●
Williams Press, Inc., Albany
Wolfer Prtg. Co., Los Angeles
World Color Prtg. Co., St. Louis
Wright-Patterson Air Force Base, Dayton

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PHOTOGRAPHIC CLINIC

Camera Troubles 'Down Under'

By HERBERT P. PASCHEL
Technical Editor

Q: My camera is equipped with four 60 amp. arc lamps. When doing color work I get negatives darker down one end than at the other. Is there any scientific or recognized way in which to set the arcs correctly to get even copy illumination?

Another problem is uneven flash dots obtained with any type screen and any make of film. We have tried white paper flashing, yellow light flashing and have experimented with the installed light (camera flashing lamp), but with the same poor result. Also, when making screen stipples or flat continuous tone tints, I experience rippling effects. Could you explain this for me please. Has it something to do with the aperture, or has it to do with the light source?

J. F., ADELAIDE,
SOUTH AUSTRALIA

It is impossible for Mr. Paschel to give personal replies by mail, but all questions will be answered in this column as soon after receipt as possible. The columnist also is available to the trade as a consultant for more complex litho problems.

A: There are two schools of thought on how best to illuminate a copyboard. One faction contends that the light intensity should be less at the center than at the sides and corners. The other viewpoint favors uniform intensity.

There is some justification for unequal illumination. The image projected by the lens is circular in shape, as is the area covered at the object (copy) plane. The intensity of the projected image is greatest at the center and gradually diminishes toward the periphery. If we consider the center intensity to be 100 per cent then, for a typical process lens, the peripheral image intensity could be as low as 75 per cent, or less.

The corners of a square or rectangular image within the circle obviously extend into the weaker area more so than any other part of the image. The purpose of unequal copyboard illumination is to compensate for this optical light loss and thus obtain a uniform image.

The ideal solution to this problem calls for a circle of light on the copyboard that varies in intensity from center to edge in a manner precisely opposite to the fall-off of the lens. I, for one, have never found a way to adjust two or four arc lamps to produce a circular beam that differs in intensity from center to edge as desired. Another problem with this system is that the adjustment is valid only for one focus setting. At same size the image area and copy area are equal. With enlargement, the diameter of the image field increases, while the diameter of the copy area diminishes. Conversely, at reduction settings, the diameter of the image field decreases, while the copy area increases. As a consequence, the circular (ideal) beam of light would thus have to be bigger or smaller, according to the camera setting.

The figures cited for image fall-off refer to the maximum image circle. Smaller images at the same focus will have less difference between center and edge. In such cases the difference in negative density from center to edge (or corners) may be hardly noticeable. For this reason, some cameramen contend that uniform copyboard illumination is perfectly satisfactory and, of course, easier to achieve. It also avoids the necessity of adjusting the lamps for different focus settings.

Work Dictates Method

The nature of your work will dictate how best to illuminate the copyboard. If you normally make very large negatives and thus use the full image circle, it would probably be better to get the corners of the copyboard somewhat more intense than the center. With smaller images, and

less critical work, you might get by with uniform lighting.

To set your lamps accurately you will need an extremely sensitive light meter of some type. For uniform copyboard illumination take your readings at the copyboard. An incident light exposure meter can be used, provided the meter and the cell are on the same side. Adjust the lamps until you get an equal reading on the meter at all points on the copyboard.

For uniform image intensity the readings must be taken at the ground glass and you will need a sensitive photo-electric photometer. Many photo-electric densitometers used in the graphic arts can be adapted to this purpose. Set the camera at same size and fill the copyboard with clean white paper. Adjust your lamps until you get reasonably uniform readings at all points on the ground glass corresponding to the area of the largest negative size. This will be the lamp setting for same size focus. For critical accuracy you will have to repeat this for all other major camera settings normally used.

Uneven Negatives

You specifically mention that you get uneven negatives when making color separations. If the unevenness varies from one negative to another in the same set in an opposite direction, this might indicate a different sort of problem. If, for example, the red filtered negative is lighter in one corner, and the blue filter negative is darker in the same corner, this could very likely be due to a difference in the color of the light. The light output of each of your four lamps should be matched in two respects — intensity and color composition. If they are not, you can never hope to achieve uniformly exposed negatives — black and white or color separation.

As a general rule, arc lamps are operated in pairs in a series connection. If, for any reason, mechanical or electrical, one lamp gets more current than the other, the light produced by the two lamps will vary in intensity and color content. The one operating at a lower current input will produce less light and that light will have less blue content than at normal operation. Adjusting the lamp distances can equalize the light intensity on the copyboard, but there is no way to compensate for the difference in the color quality of the light. You can check the average spectral output of each of the lamps by means of a color temperature meter.

If you have a photo-electric color densitometer with a removable head, take red, green and blue filtered readings of each lamp. The actual readings may vary, but the red, green and blue ratios should be reasonably the same for all lamps. If not, some repair or adjustment of the lamps that are out of balance is indicated. It would also be wise to check the power mains for voltage fluctuation. Have the power company put a recording voltmeter on the line for a period of at least a week. If significant variation is noted, it may be necessary to provide a separate line for the lights. In severe cases a voltage stabilizer may be required.

The output of your arclights is definitely influenced by the input voltage. If the four units are in balance, however the light changes it will be equal for all lamps. Coverage would be uniform but you would still have exposure problems, especially with color separations. If the four lamps are not in balance, the light (color) difference between them will be aggravated with input voltage changes.

In the absence of physical evidence as to the exact nature of the defects, I can do no more than take a guess at the remaining two problems. Obviously, uneven illumination could also be the explanation for uneven flash dots and blemishes in halftone tints. Quite possibly clearing up the first problem will also eliminate the latter two. There are many other factors you should investigate. Check the vacuum film holder for surface irregularities, bright spots and unevenness of holding action.

And don't discount the possibility that the screens used may have local defects. Lens flare and internal

(*Continued on Page* 101)

Litho Schools

Canada—Ryerson Institute of Technology. School of Graphic Arts, 50 Gould St., Toronto, Ont., Canada.

Chicago—Chicago Lithographic Institute, 1611 W. Adams St., Chicago 12, Ill.

Cincinnati—Ohio Mechanics Institute, Cincinnati, Ohio

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TECHNICAL SECTION

The 'Strip' System of Camera Control

By Frank H. Smith
Development Dept., Monotype Corp., Ltd.,
Salfords, Redhill, Surrey, England

Part 5: Fixed Stop Screen Distances
(Conclusion)

I HAVE left the matter of screen distances until the last article of this series because it is a subject upon which I have views which I would like to air and with which the reader may disagree, in which case do please write to the editor or to me and say so!

As I believe I have mentioned before, the great Frederick E. Ives delivered a series of lectures in 1912 (long before my time!) at "Bolt Court" School of Photoengraving and Lithography, just off Fleet Street in London. It was then that he first enunciated (in Europe) his "Optical 'V'" principle concerning the relation between lens apertures and halftone screen distance which has since become known as the "Penumbral Theory."

Around that time two other pioneers of the graphic arts, Dr. A. J. Bull and Dr. Kenneth Mees, were colleagues at Messrs. Wratten and Wainwright, the English firm which joined Eastman Kodak. Mees went to America and finally became Managing Director of Kodak, while Bull became Principal of Bolt Court School. Mees was (among many other attainments) a master of the new science of dye-sensitizing photographic emulsions to provide color sensitivity which had been discovered by Dr. Vogel in Germany in 1897. Bull was more interested in color as such, in the transmissions and absorptions of color filters, color separation photography, etc., indeed, the present specification for the tri-color filters was formulated by him.

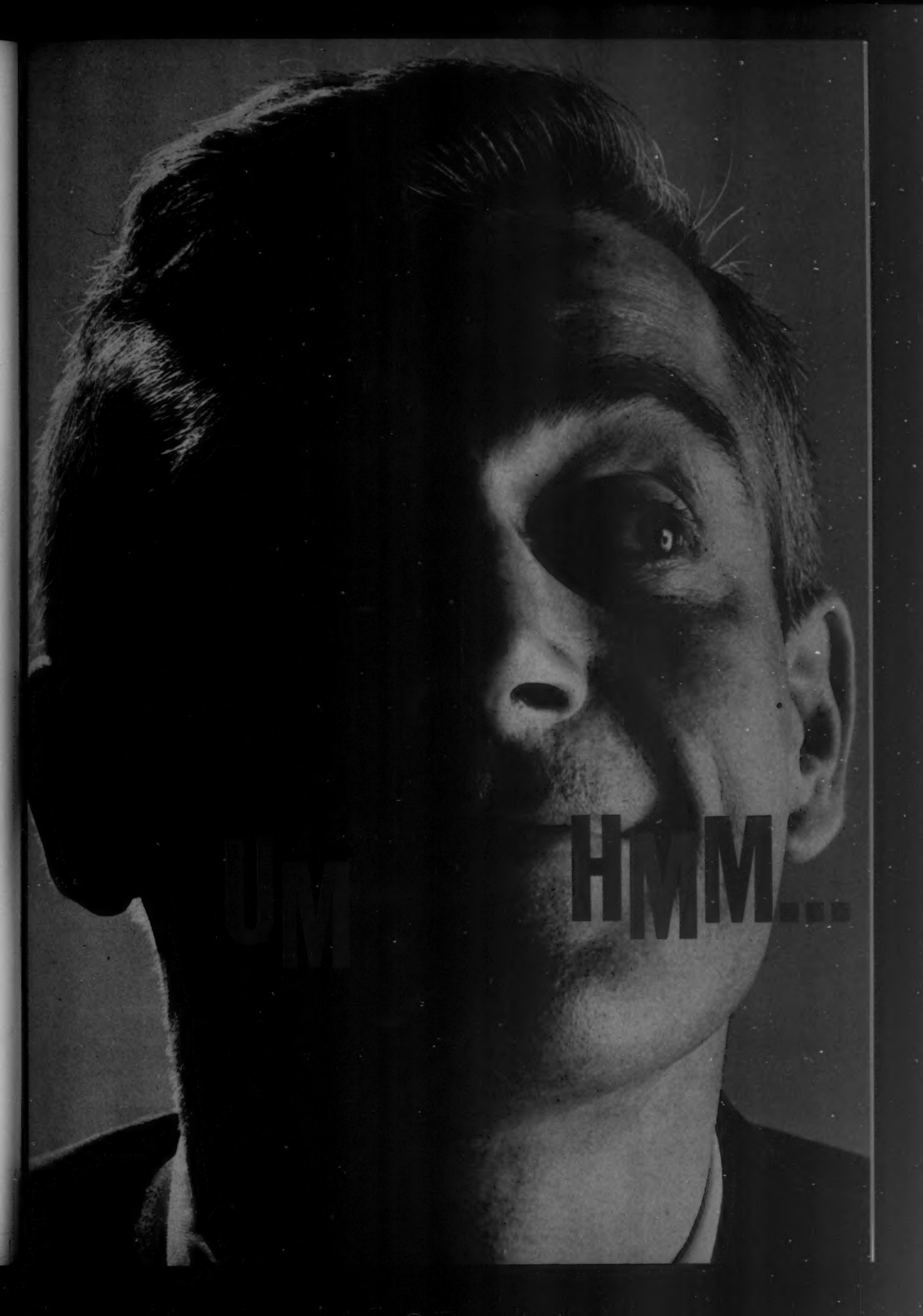
At the school, Bull was a strong supporter of the penumbral theory. He believed that the size of the lens apertures and the distance of the crossline screen from the plate in the camera make it unlikely that the phenomenon of diffraction would much affect screen distance and at first he tended to disagree with the "Diffraction Theory" of halftone propounded by Fruwirth and Mertle and by Yule at Kodak, but later he modified his views and agreed that diffraction certainly did have an effect upon the dot formation, although he believed that the main effect was penumbral.

The Modern View

I think that is the general modern view. It is difficult, if not impossible, to be dogmatic about it, but it is certain that the effects that we get in practice are not entirely due to penumbra, especially when we consider that it works really well only for a 133-line screen if we use the well-known 'v/64' constant ratio lens apertures system mentioned in the first article of this series. Other screen rulings seem to need a different aperture ratio and screen distance factor; in fact proportionately larger apertures and shorter screen distance for finer screens and smaller apertures and longer screen distance for coarser screens, which accords with diffraction theory. In my own experience I have become convinced that this view is the best explanation, the more so because it is somewhat inconvenient to work in that way and, many years ago, I tried to avoid doing so but found that it was the only way to get precisely the type of negatives and positives that I required.

Further I also found that different emulsions, for instance the iodo-bromide 'process' materials, as compared with 'lith,' also need a slight differance of lens aperture or screen distance conditions, but that is easily dealt with for I think 'lith' requires slightly less (about 5 to 8 percent less) screen distance, or smaller aperture. Surely that is reasonable because if the contrast of the two materials is different it will vary the dot size differently, also the degree of irradiation between the silver halide grains is also different and that will affect the result. Finally there is the distinctly different 'infectious development' phenomenon of 'lith' which also modifies the result towards higher contrast.

Of course these views are chiefly craftsmens' empirical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quality considerations, delicate nuances of opinion about just what is a "perfect" halftone image within the limitations of the ruled screen technique — a question of how well the tone range is retained in the upper, middle and lower tones of the image. I am not quoting merely my personal views, in one sense, because I have always tried to base my decisions upon the suitability of my work for the litho retouchers and plate makers, or for the metal printers and etchers in the case of letterpress engravings, for in my early days I found that my opinions were not always supported by them and that sometimes I had to change my view of what *was* a good halftone, but I think I know now (although who dare be definite about such fine differences?).

I believe that it is scarcely possible, under practical workshop conditions, to find the appropriate lens aperture ratio and screen distance by pure calculation and measurement, although one can get very close. But from then onwards one must be guided by empirical experiment and must alter the ratios slightly until just the right conditions are found when, if one is using a proportion of the camera extension for the lens aperture, the strip system should give good results throughout the size range. However, even then the results may not be *quite* right at the ends of the range — if only because the indicated lens apertures on the iris ring may not be quite true — and it may be necessary to alter the strip length slightly or the 'constant' added to its image length as explained in the first article.

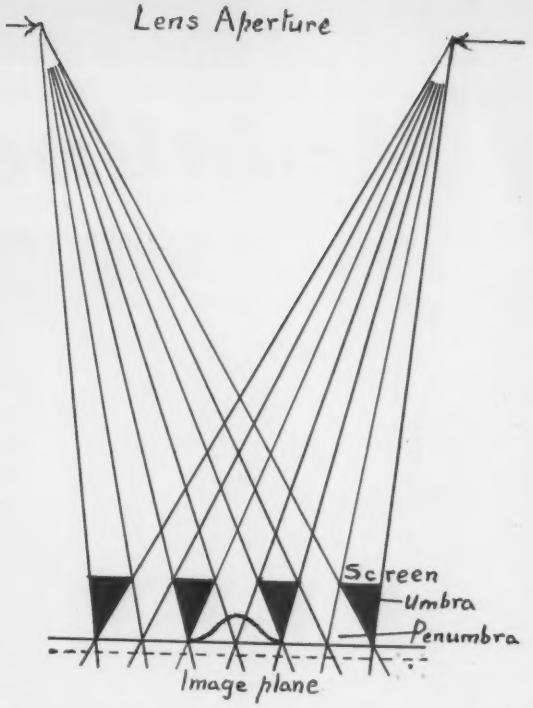


Figure 1. This is the well-known "standard" penumbral shadow diagram usually used to illustrate the penumbral theory of halftone dot formation. It ignores diffraction and assumes that the light travels in straight lines from the lens aperture through each aperture in the screen, forming a total shadow behind each screen line which comes to a point at the image plane. If the theory is correct, the light would increase through the penumbra area to a maximum and then down again to the next total shadow, somewhat in the manner of the wavy line. The theory explains known effects fairly well, but I suggest that if it were true then certainly the emulsion surface would need to be farther back, at about the position shown in dotted lines, because quite a fair amount more than no light at all is needed at the 'total shadow' position if the highlight dots are ever to join.

Screen Distance Strip for Fixed Stop Working

The gist of the above remarks boils down to my opinion (and that of many others) that although fixed lens aperture at all scales, and consequently varied exposures (see last month's article) works well for line work, it is not so good as the constant stop ratio method for halftone, still, there's no doubt that it can be made to work. If you wish to try it I think it is best to determine the strip length to control he screen distance by experiment rather than to try to calculate it, because there are so many intangibles about which we still do not know enough to be confident of just how the calculations should be made. I have tried to evolve formulas for the purpose and have even published them years ago when I was a good deal more brash than I am now, but you will find that the following method works best:

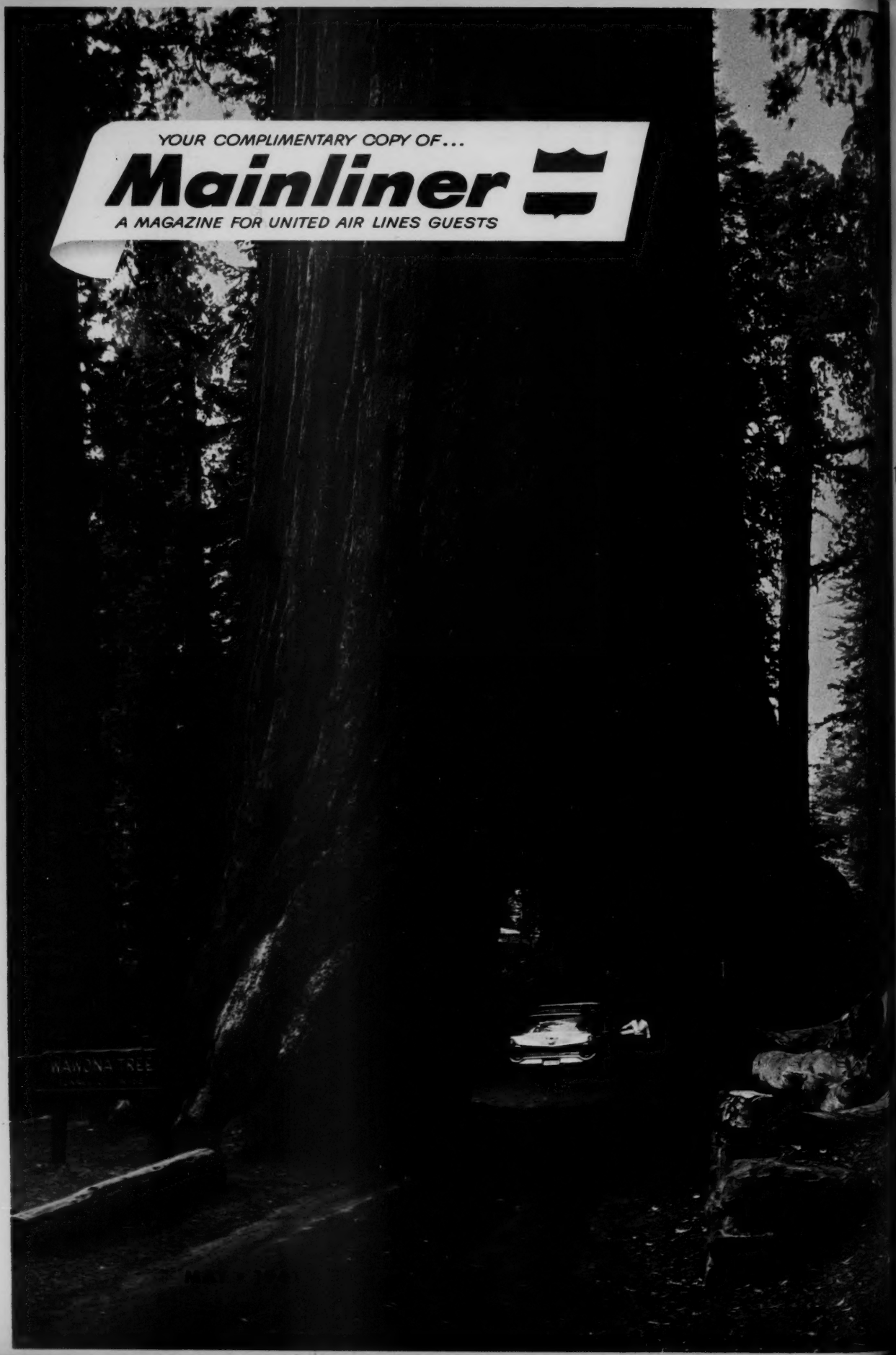
1. Controlling the exposures by the strip method explained last month, make some negatives at one quarter scale (25 percent) finding the appropriate screen distance by looking at the dot pattern with a magnifying lens on the focusing screen, or in any other way you prefer, until you have obtained a really good result, when the screen disance is noted. Repeat the experiments at one and one quarter scale (125 percent) and again note the screen distance.

2. Let us suppose that with a particular screen and the lens apertures and exposure proportions which you have chosen, the quarter size screen distance was four millimeters, according to the indicator on the camera screen gear (we don't care whether it indicates 'correctly' or not because the method takes care of that). And suppose that the one and a quarter size screen distance was seven millimeters.

3. The difference between the camera extensions at quarter size and one and a quarter size is one focal length, so the screen distance strip length should be the difference between the two screen distances (namely 7 — 4 = 3 inches). We now need only to know the constant to be added to the length of the image of the strip when the job is focused to size, to determine the required screen distance at that particular scale.

4. We know that at ¼ size the 3" strip would measure ¾" to obtain the experimentally determined 4 millimeters at that scale. We therefore make our 3" strip and write "+ 3¼" at the top of it.

As check we note that at 1¼ scale the strip would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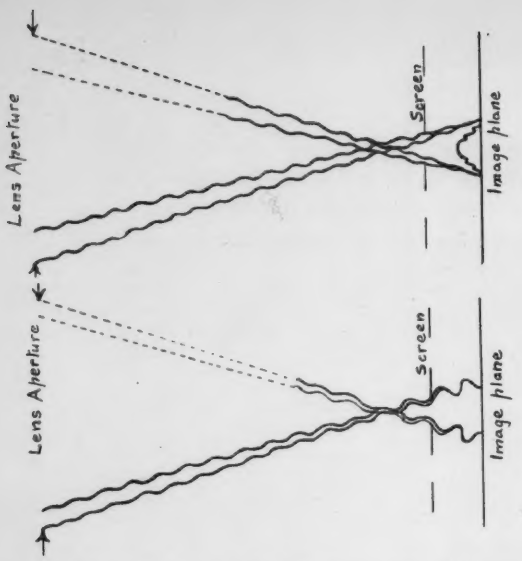


Figure 2. This is the way in which Dr. Bull explained the principle of the diffraction theory. Light is an electro-magnetic wave phenomenon and may be compared with waves in water. In the upper diagram the top line of waves is only just passing the screen line and the lower line of waves is only just entering the lens aperture. The length of the two pencils of light is slightly different and if the difference is half a wavelength so that a rising wave runs into a falling wave by the time that they reach the image plane, then they will cancel each other out and there will be no light at that point.

On the other hand, if the length of the two pencils of light (lines of waves) differs by a whole wavelength (a very minute distance) then both waves will be rising or falling together as they reach the image plane and they will emphasize one another so that there will be a bright spot at that position. One can see waves in water cancelling each other out or emphasizing the total effect and the same phenomenon occurs with light waves.

According to those who support the diffraction theory, the light pattern at the image plane is somewhat on the lines of the wavy line shown in the top diagram at the image plane. The diffraction effect is most prominent near the edges of the dot patterns because it becomes flooded with mixed rays from various parts of the lens aperture towards the center of the dot pattern and so the diffraction patterns are damped out.

In general (and very loosely) diffraction theory predicts a dot structure of much the same kind as would be expected by penumbral theory except that, as stated in the article, diffraction theory suggest that each different crossline screen (coarser or finer) would have an optimum screen distance and lens aperture combination which would suit it better than others (which we seem to find in practice), also that the screen distance should need to be slightly different for red light than for blue, which we also believe that we detect in practical work.

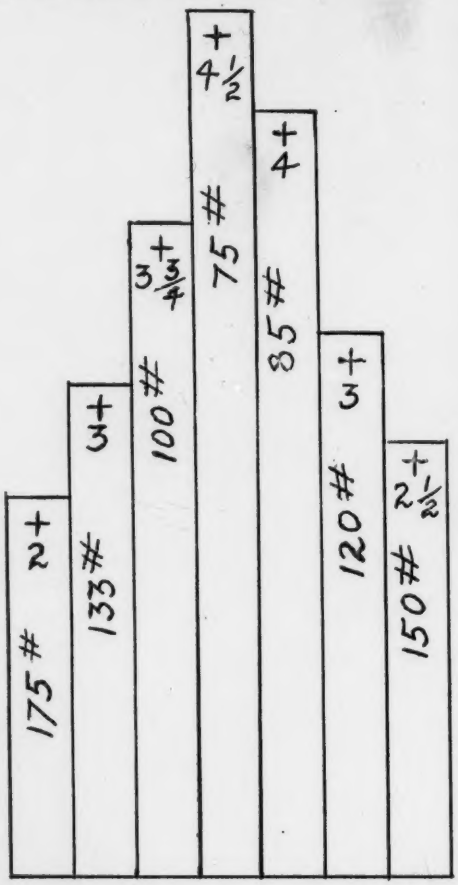
measure 3¾" and that if we add the 3¼" constant we get the required 7 millimeters of screen distance which we also experimentally determined.

Thus we see that the strip gives the screen distances which we experimentally found to be correct at the two scales and therefore, of course, it automatically gives the appropriate screen distance for any scale between them and on either side, so the method *should* work well, and indeed it does, within the limits of the fixed stop system.

I have illustrated one convenient form of the screen distance strip in which, as you see, each step on the strip represents a different screen ruling with its appropriate constant noted at the top. It works quite well, using the screen from which the data was derived, but it should be noted that it might not work at all well with another screen of the same ruling because of such possible differences as the thickness of its cover glass, refractive index of its glass, ratio of width of line to space, and so on, so it is advisable to make the tests for the particular screens which are to be used with the strip.

May I conclude by repeating what I said at the conclusion of a previous series in ML? I have enjoyed writing the articles and I shall be glad to reply to any letters from readers and to provide any further information that they may require.■

Figure 3. This is a proposed way of marking out a strip for fixed stop screen distances. The lengths and "constants" are the sort of figures that one gets in practice using f/32 for the lens aperture (or an f/32 average of the different stops if using multiple halftone exposures). You will see some anomalies in the "constant" figures; for instance the coarse screen numbers are less than might be expected, but that tends to occur in practice, predicted perhaps by diffraction theory but chiefly due, I think, to the fact that the line to space ratio tends to be slightly less precise in coarse screens.



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Lithography—General

PLATE CARE AND PROBLEMS 655.326 No. 25—The How and Why of Carton Lithography. John Jachimiec. *Boxboard Containers* 78, No. 815, November 1960, pp. 22-24 (3 pages). A list of 9 rules for running litho plates is given and each point is discussed. The 9 rules cover (briefly abstracted here): 1) Plate packing; 2) Blanket packing; 3) Ink roller setting; 4) Dampener setting; 5) Fountain Solution; 6) and 7) Proper Ink control; 8) Fountain solution control and 9) Press cleanliness.

CHECKPOINTS FOR ERRORS 655.303 Part 8—"Stripping For Profit." Elizabeth Parker. *National Lithographer* 67, No. 11, November 1960, pp. 45, 64 (2 pages). It is necessary to recognize that mistakes do occur, especially in rush work, and plan to catch them. Good instructions, lack of interruptions, avoidance of haste are some pointers given. Others cover methods of checking for errors. 1 Illustration.

PRINTING SEQUENCE IN LITHOGRAPHIC PROCESS COLOUR WORK. 655.322 L. E. Lawson. *Printing Technology*, Vol. IV, No. 2, December 1960, pages 79-91, 12 pages. The use of pigments in inks introduces departures from the ideal equality of inks. The largest factor is probably scatter within the layer. The three process colors can be printed in six different orders. An experiment is described in which five of these were investigated by printing a prepared subject consisting of a solid. 24 hours were allowed between separate printings. Results indicated that the yellow should be printed early, and the magenta printed within the closest tolerances. 7 Illustrations. Discussion.

DEVELOPING GOOD WORKING HABITS 655.303 Part 7 "Stripping For Profit." Elizabeth Parker. *National Lithographer* 67, No. 10, October 1960, pp. 52,53, & 120 (3 pages). This installment is devoted largely to corner marks, register marks and register. Specific suggestions are given.

NEW DEVELOPMENTS AND TRENDS IN LITHOGRAPHY. Michael H. Bruno. *TAGA Proceedings*, 12th Annual Meeting, June 1960, pp. 203-211, Discussion p. 229 (10 pages). Despite the research that has been done, lithography still has some limitations that can restrict its future growth. These are (1) the variability of the ink-water balance, (2) the need for special characteristics in paper, (3) the use of tacky inks. (4) the possibility of slur in the impression when printing on smooth surfaces, and (5) the overall content of the blanket with the paper in the impression nip. In addition it suffers from the use of poor pigments, the fact that papers are not white, and the graying of halftone tints. Developments in photography, platemaking, press, and paper and ink are helping to eliminate these limitations. Discussed are the use of balanced inks, better plates, the Dahlgren and other dampening systems, a new disposable blanket, ink transfer and tinting studies, and work on the development of a Print Quality Instrument that may eventually lead to automation of quality on the press. 17 references.

SMALL OFFSET PRESSES SUITABLE FOR MAGNETIC INK IMPRINTING. Anon. *ODR Reproductions Review* 10, No. 10, October 1960, pp. 20-22 (3 pages). This is a case history of how a commercial lithographer uses small offset presses to solve the reproduction problems that attend the printing of checks with magnetic ink. The report should be particularly valuable to in-plant reproduction departments investigating the potentials of magnetic ink. Two A. B. Dick presses are used. 4 Illustrations.

CONTROL OF DEVELOPING STAGE IS CRUCIAL IN DEEP-ETCH PLATEMAKING. Charles W. Latham, *The Inland and American Printer and Lithographer* 146, No. 1, October 1960, pp. 72-74 (3 pages). "Developing the plate is the point in deep-etch platemaking where the quality of previous steps may be evaluated, and to some extent, corrected." Controls such as the LTF Sensitivity Guide And Baume of coating are described. Specific instructions are given. 2 Illustrations.

SOME BASIC FACTS ON WEB-OFFSET. Anon. *Modern Lithography* 28, No. 11, November 1960, pp. 32-34 (3 pages). (Reprinted from the new booklet *"Miehle Web-Offset Perfecting Presses."*) An explanation of the operation of a web offset press carried step-by-step through the press pointing out differences from the operation of a sheet fed press. Additional operations such as rubber plate imprinting, drying ovens, folding, scoring, cross perforating, etc. are pointed out. Advantages of web-offset, also some disadvantages are given. 4 Illustrations.

DEWEY & ALMY POLYFIBRON TWO-PIECE BLANKET. Anon. *Modern Lithography* 28, No. 11, November 1960, pp. 35, 136 (2 pages). Story on the introduction of this blanket. Six advantages are listed: 1. True image due to lack of blanket distortion, 2. Fidelity of ink transfer over a wide range of pressures, 3. Saves makeready time, 4. Needs no rest to recover original shape, 5. Plate life extended, 6. Replacement cost cut. Mounting of blanket is explained. 3 Illustrations.

AN EVALUATION OF WEB-OFFSET PRINTING. 655.3329 H. A. Asten. *The American Pressman* 70, No. 11, November 1960, pp. 6, 8, 9, 10 (4 pages). A description of the various arrangements possible in web offset presses. Explained are the blanket-to-blanket (in vertical or horizontal arrangement), and blanket-to-steel (in inline or common drum types). The offset units themselves are

explained as they differ from sheet fed presses. Other points covered include the disadvantages of the fixed cut-off, the higher initial cost and greater speed and production. Folding on the press, no tail end fan out, no sheet transfer, lower cost of paper but higher waste (said to just about balance out) are mentioned. Quality of work is said to be equal to that of sheet fed.

A MODERN ANSWER TO OFFSET PROVING. 655.323 : 655.327 A. G. E. van der Tuuk. *Modern Lithography* 28, No. 11, November 1960, pp. 48, 137, 139 (3 pages). Explanation of the reason why offset proving has produced a skeptical attitude toward offset proof presses. The development of flatbed offset proving presses is mentioned. The newer types are available in sizes from 18 x 24″ to 55 x 78″. Improved details are described. 3 Illustrations.

WEB-OFFSET PRINTING. 655.329 Bernard Green. *TAPPI* 43, No. 7, July 1960, pp. 203A-205A (3 pages). The biggest change in the past 10 to 15 years of printing has been to offset, in the near future web-offset will be a part of this big change. Advances in presses, papers and inks are mentioned. Of approximately 1000 web-offffset presses in the U. S. approximatetly 750 are printing business forms, the rest commercial publishing and general printing. Cost of plates and short makeready are advantages in comparison with other web printing. Other advantages and some disadvantages are discussed.

BOOKS BY WEB-OFFSET. 655.329 : 655.7 Walter Kubilius. *Book Production* November 1960, p. 57 (1 page). Limitations on trim size and demand for long runs have held back web-offset in the book field. Standardization of paper, size and folder set-up are one approach to overcoming these limitations. This reduces changeover to plates only. This reduces breakeven point from its former 25,000 to 50,000 level to 10,000 or less. Strong doubts remain about use of web offset on 3,000 to 5,000 runs.

THE OFFSET STORY. 655.05 : 655.-32 : 655.329 Edwin G. Schwenn. *The Publishers' Auxiliary* — A series of 15 articles appearing in this weekly publication in issues from November 26, 1960, through March 11, 1961. Material for the series was derived principally from information furnished by 102 publishers of 346 newspapers printed by offset. A reprint has been prepared by the publishers: The Publishers' Auxiliary, 210 S. Desplaines Street, Chicago 6, Illinois.

Graphic Arts—General

HOUSE ORGANS FOR EXTRA PROFIT. Philip Grant. 655.5 *The Lithographer and Offset Printer* 56, No. 11, November 1960, pp. 15-17 (3 pages). Suggestions as to how a printer can undertake the publication of house organs. Part time or free-lance editors, artists, etc. can be used for the purpose.

AUTOMATION FROM COIL TO CLOSURE. 655.83 Neal D. Rader. *National Lithographer* 67, No. 10, October 1960, pp. 95-97 (3 pages). Description of new facilities at the Richmond Works of the Aluminum Co. of America. Much of the story is on new mechanized sheet handling equipment developed by Dexter, particularly in the removal of sheets from the drying oven. The non-magnetic character of the aluminum posed problems which were overcome by use of vacuum. 4 Illustrations.

JOINT RESEARCH WORK IN JAPAN. Masatoshi Matuso. *Asian Printer* 3, No. 3, 1960, pp. 64-67 (4 pages). The Graphic Arts Research Association of Japan inaugurated in 1955 has as members 160 printing, platemaking and paper converting companies; 60 supply companies (including paper mills) and 31 newspapers. Objectives in research and technical service are listed, as well as some 22 subjects already reported on and 4 projects currently going on. A certain amount of projected work will be carried out in member plants or university laboratories. The scope of work covered is: A. Letterpress Printing; B. Newspaper Printing; C. Lithographic Platemaking; D. Camera work in general; E. Lithographic Printing, Paper and Ink; F. Gravure in general and special printing; G. Electronic Platemaking; H. Consultinf; I. Analytic experiments and color. 4 Illustrations.

PRINTING TRADE SCIENTISTS. 655.07 Frank DeWitt. *Printing and Graphic Arts*, No. 12, October 1960, pp. 22-23 (2 pages). Probably no industry needs scientifically trained personnel more than the printing industry. Yet, probably, no indusrty has been less aware of the need for such people. This need is discussed from the standpoint of the physicist, chemist, mathematician and electronic engineer.

THE COLLOTYPE PROCESS. 655.34 A. Hammer. *Printin gand Graphic Arts*, No. 12, October 1960, pp. 4-7 (4 pages). Other names for the process are photo gelatin, phototype, albertypes, heliotype, and artotype. The process is 100 years oild, relatively simple and gives results unsurpassed by any other printing process. Some history is given. The basic principles of the swelling of bichromated gelatin as controlled by exposure to light are explained and details of the process given.

LIGHTING IS SO IMPORTANT — In Steps Toward Efficiency. Anon. *Printing World* 167, No. 24, December 14, 1960, pp. 701, 710 (2 pages). Discussion of desirable illumination levels for various types of work in a printing plant. A table gives recommended illumination in foot-candles.

THE WRAP-AROUND PLATE AND ITS APPLICATION TO THE PRINTING INDUSTRY. E. Bartlett Brooks. *A Report to the International Photoengraving Congress*, 11th May 1960; *Process* 67, No. 798, July 1960, pp. 229-231 (3 pages). A list of 10 features and advantages of the plate in effect compare it to both normal letterpress and lithography. One requirement is a negative correct for the process. Other problems of platemaking are pointed out. The duPont Dycril is mentioned. du Point is preparing to supply plate materials in the sizes required.

AUTOMATIC ELECTRONIC PROOFREADER. E. R. Kramer and J. B. O'Maley. *TAGA Proceedings*, 12th Annual Meeting, June 1960, pp. 185-191, Discussion p. 215 (8 pages). This paper pertains to an automatic electronic proofreading system for "proofreading" punched tape which operates automatic typesetting equipment. Errors are sensed by comparing the character codes on the punched tape with the characters on a typewritten draft.

PLEASE DON'T TRIM THE DAISIES. Lester M. Reiss. *Modern Lithography* 28, No. 10, October 1960, pp. 60, 61,165,166 (4 pages). From an address presented at the 41st annual convention, International Assoc. of Printing House Craftsmen, August 1960. New developments in cutting give better quality work and eliminate back-breaking procedures. Some of the improvements include hydraulic clamp action, air film table, automatic spacer cutters, three (also four and five) knife trimmers. Advances in collating and gathering are mentioned Four suggestions on plant modernization are offered.

THE BMI-HUNT SURVEY. Anon. *Book Production*, October 1960, pp. 52-53 (2 pages). A report of a forecasting survey of book sales by 1965. Charts are given showing past production and projections to 1965. The survey is broken down into a number of categories by contents, bindings, etc. Projected increases for 1965 over 1958-9 range from 8 per cent to 93 per cent. 7 Charts.

Graphic Arts — General

SPECIAL OCCASIONS MEAN COMPLEX PRODUCTION SITUATIONS FOR THE GREETING CARD PRINTER. 655.84 George Williams. *Printing Production* 91, No. 2, November 1960, pp. 36-38, 96, 97 (5 pages). Greeting card annual production is estimated at over four billion cards and $602 million. The production of the cards as done at one plant is outlined. The actual lithographing of the cards is mostly done by other lithographers. The complex finishing processes may include as many as five operations. Envelope production is on web-fed equipment. 10 Illustrations.

ELECTRONIC COPY HOLDING GIVES NEW LOOK TO PROOFREADING TASK. 655.255 Anon. *Printing Production* 91, No. 2, November 1960, p. 43 (1 page). Description of a new proofreading system developed at the University of Toronto Press. Proofreader reads copy into a tape recorder dictating machine,

(*Continued on Page* 99)

Good, quick direct-halftone separations

with Kodalith Pan Film or Plates

Some four-color jobs you get don't come with the funds or time to let you make color-correcting masks, halftone positives, and other intermediate film steps. We offer the direct method of halftone separation as a good way to get it right the first time, and thereafter.

It's called "the direct method" because screening and color separation are accomplished together in the first step. Printing plates for surface lithography are made *directly* from these screen negatives. (For deep-etch offset plates, screen positives are made by contact printing from the screen negatives.) Color correction, where necessary, is done by local dot etching on the separations.*

*However, when reproducing color transparencies, a contrast-reducing mask is suggested, which will also aid in color correction.

Extremely high-contrast panchromatic materials are in order. These would be Kodalith Pan Film (Estar Base), or Kodalith Pan Plates for unfailing dimensional stability. Both materials have a recently improved emulsion that is several times as fast as earlier products. The clean, sharp dots are more suitable for dot etching, too. We certainly recommend the Kodak Gray Contact Screen, but a glass cross-line is also acceptable. Kodalith Super Developer is the most satisfactory developer to use.

If you need some help, the Kodak Technical Representative in your area will come, upon hearing from you or your dealer. And make sure that dealer gives you the Kodak materials you need to do the job right . . . right from the start.

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EASTMAN KODAK COMPANY
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Kodak
TRADEMARK

LITHO CLUB NEWS

902 Attend Southwest Litho Clinic

"THE Greatest Show on Earth" was the theme of the 11th Annual Southwest Litho Clinic, sponsored jointly by the Dallas and Houston Litho Clubs, and held June 16-18 in the Adolphus Hotel, Dallas. And it was indeed one of the greatest shows. According to clinic officials, 902 registrants were recorded, the largest number of persons ever to attend a litho clinic in this country.

The goal of the clinic was to present a program with the widest possible educational benefit for those attending. The circus theme was chosen, clinic officials said, because there were three programs being presented simultaneously.

In one ring, the press program, subjects discussed were printing and binding relations; "do - it - yourself" mechanics for pressmen; ink manipulation for the pressman; standardized markeready procedures; single color press operations; professional approach to pressmanship, scoring and perforating on offset presses; transition to multicolor; web-offset: present and future; densitometers for the pressman; and use of blankets.

The second ring, the preparation program, covered the following subjects: art — modification camera in copy preparation, and relationship between client, artists and printer; camera — care and maintenance, material handling, lens stops, filters, and problems when shop conditions are "out of control;" stripping — stripping and bindery relationships; plates — presentitized plate problems, and press problems in handling large plates; color — Gevaert multimask process, and 3M Color Key process.

In the third ring, problems encountered by foremen and superintendents were investigated. Subjects covered included planning, cost accounting, purchasing, communications, scheduling, quality control, and industrial psychology.

Of course, no circus would be complete without side attractions. Here again the clinic made a big hit with the Trade Fair. Forty suppliers from Dallas and other parts of the country occupied 60 booths in the Regency Room of the hotel. The fair displayed the latest lithographic equipment and supplies, with several equipment demonstrations staged.

•

Love Envelope Co. Toured

On June 6, more than 75 members of the Dallas Litho Club toured the Love Envelope Co. of Dallas, and heard the firm's founder, Frank Love, give a technical talk on the correct layout methods for making various size envelopes.

After the talk, club members were conducted on a tour of the company, during which they observed in operation envelope-making equipment of the latest design. The Love Co. is located in a 20,000 square foot building in Dallas's Trinity Industrial District.

Joseph Taylor, offset pressman from Johnston Printing Co., won the $25 gift certificate presented as a door prize. At the meeting, eight new members were inducted into the club and presented Senefelder pins.

TWIN CITY

Color Films Shown

Three Eastman Kodak films highlighted the July program of the Twin City Litho Club. The first film, entitled "How Kodakalith Film Is Made," presented a step-by-step description of film production—from raw cotton to the finished product. It also discussed the various quality control processes employed in film production.

The second film was entitled "Assignment Jet Colorama," and depicted the problems encountered in shooting still color transparencies of the "Blue Angels" jet fighter group.

The third film, entitled "Photo-Engraving Means Business," illustrated new techniques employed by the photo-engraver to recapture a larger share of the printing dollar. Among other techniques, the film showed the latest method of stripping combination process color work.

At the June meeting, Charles Williams, of the Welch Co., gave a talk on the Densichron.

CINCINNATI

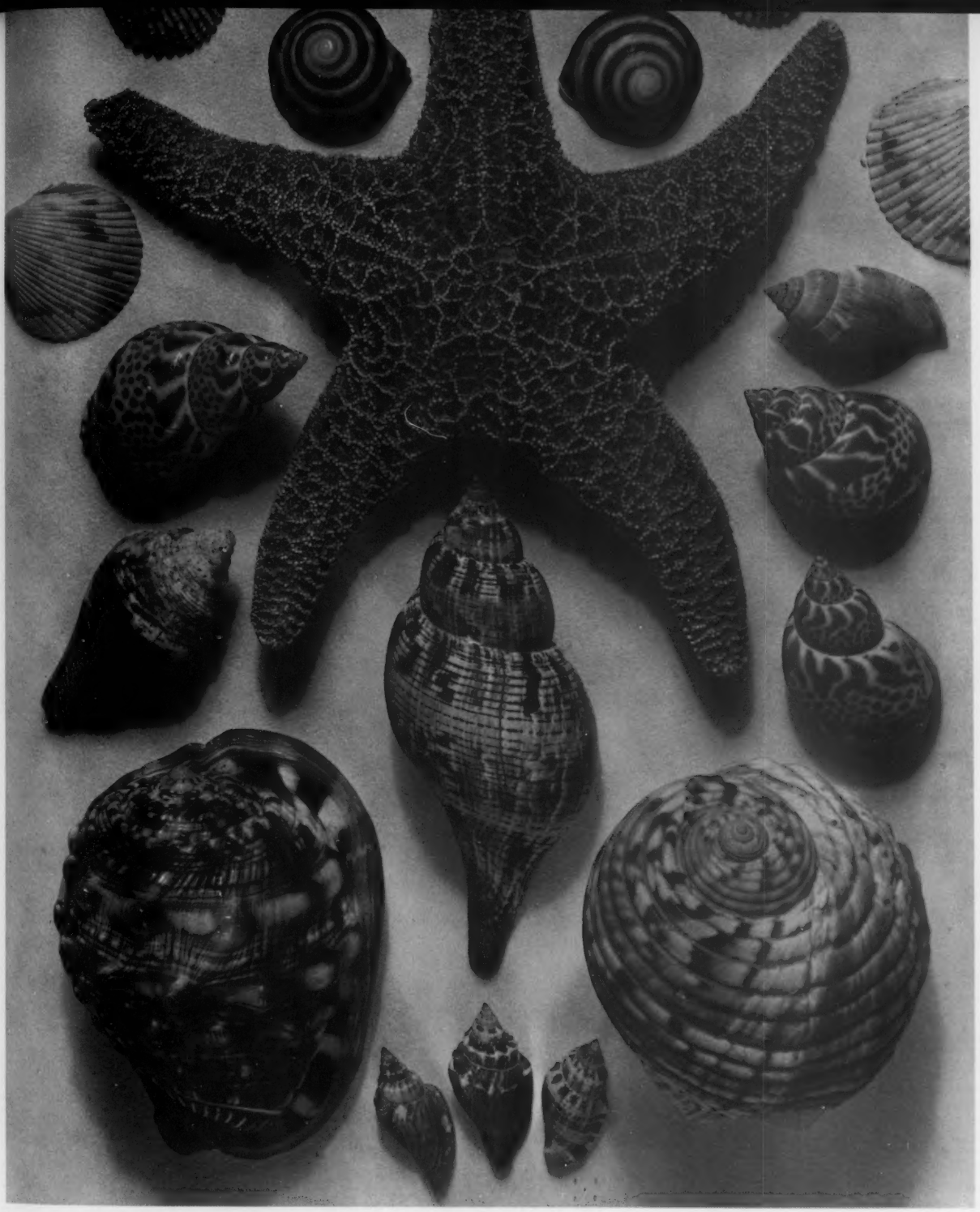
Club Activities Reviewed

Harold Biddle, club vice president, entertained the Cincinnati Litho Club's board of governors and their wives on June 23 at his home in Groesbeck, a suburb of Cincinnati. Club activities during the first half of the year were reviewed, and plans were completed for an annual family picnic, to be held August 12 at Champion Paper Co.'s Thompson Park in Hamilton, O.

More than 175 persons attended the second annual bowling party of the club, which was held on June 10 at the Cabana Kenton Lanes.

The regular monthly meeting, featured a talk on the use of rubber blankets on offset presses.

It was announced that the fall season will be opened on Sept. 12. At that meeting, representatives of Harris-Seybold division of Harris-Intertype Corp., will give talks on offset presses.



4-color offset reproduction from a transparency by Paul W. Cloud. (175-line screen)

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BIRMINGHAM, ALA.	Sloan Paper Company
BOISE, IDAHO	Zellerbach Paper Company
BOSTON, MASS.	Carter Rice Storrs & Bement Inc. The Century Paper Co., Inc. Lindenmeyr Paper Company, Inc.
BUFFALO, N. Y.	The Alling & Cory Company Franklin-Cowan Paper Company
CHAMPAIGN, ILL.	Crescent Paper Company
CHARLOTTE, N. C.	Caskie Paper Company, Inc. Virginia Paper Company
CHATTANOOGA, TENN.	Southern Paper Company Sloan Paper Company
CHICAGO, ILL.	Chicago Paper Company McIntosh Paper Company Carpenter Paper Company
CINCINNATI, OHIO	The Diem & Wing Paper Company
CLEVELAND, OHIO	The Petrequin Paper Company The Alling & Cory Company
COLUMBUS, OHIO	The Cincinnati Cordage & Paper Co.
CONCORD, N. H.	C. M. Rice Paper Company
DALLAS, TEXAS	Olmsted-Kirk Company
DAYTON, OHIO	The Diem & Wing Paper Company
DENVER, COLO.	Carpenter Paper Company
DES MOINES, IOWA	Western Newspaper Union Newhouse Paper Company
DETROIT, MICH.	Seaman-Patrick Paper Company Chope-Stevens Paper Company
EUGENE, ORE.	Zellerbach Paper Company
FORT WORTH, TEXAS	Olmsted-Kirk Company
FRESNO, CAL.	Zellerbach Paper Company
GRAND RAPIDS, MICH.	Quimby-Walstrom Paper Co.
GREAT FALLS, MONT.	The John Leslie Paper Company
HARRISBURG, PA.	The Alling & Cory Company
HARTFORD, CONN.	Henry Lindenmeyr & Sons Carter Rice Storrs & Bement Inc.
HONOLULU, H. I.	Honolulu Paper Company, Ltd.
HOUSTON, TEXAS	L. S. Bosworth Company Olmsted-Kirk Company of Houston
INDIANAPOLIS, IND.	Crescent Paper Company
JACKSON, MISS.	Townsend Paper Company
JACKSONVILLE, FLA.	Virginia Paper Company
KANSAS CITY, MO.	Tobey Fine Papers of Kansas City, Inc.
KNOXVILLE, TENN.	Southern Paper Company
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LITTLE ROCK, ARK.	Western Newspaper Union Arkansas Paper Company
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TOLEDO, OHIO	The Commerce Paper Company
TROY, N. Y.	Troy Paper Corporation
TULSA, OKLA.	Tulsa Paper Company
WACO, TEXAS	Olmsted-Kirk Company
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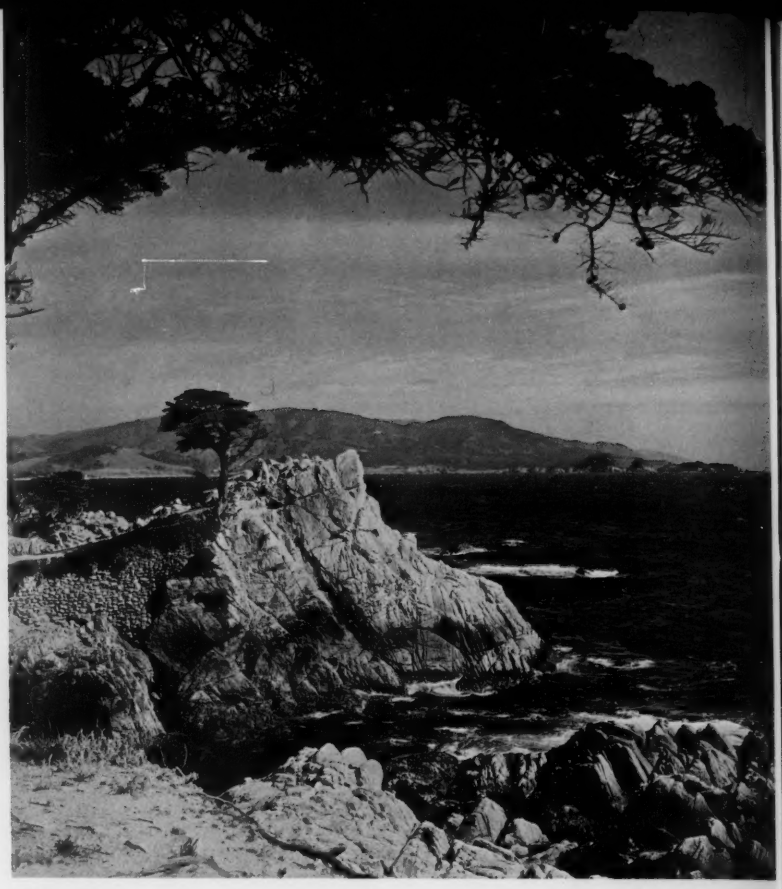

150-line screen

Photo by Louis C. Williams

WARREN'S
Pigmented Lithographic Papers

Warren's SILKOTE OFFSET is a unique wove-like offset paper with a pigmented surface and a fresh, new color. Pigmenting on the paper machine provides a greater potential for precise reproduction, greater uniformity between sides, increased strength and stability, and a much-sought-after balance of brightness and opacity. Silkote Offset is recommended for all kinds of lithographic work and for type printing by letterpress.

* * *

Warren's SILKOTE OFFSET–FALMOUTH FINISH is the regular Silkote Offset quality with an embossed pattern — a fine design that lends apparent depth as well as texture to the lithographic image. SILKOTE OFFSET–SAXONY FINISH is another popular embossed pattern that is available in this grade of paper.

* * *

Warren's PRINTONE LITHO is a pigmented lithographic paper similar to Silkote Offset but with the smooth, mellow texture of an English Finish. The application of coating pigments provides a superior surface for halftone reproduction by offset. Printone Litho permits brilliant reproduction without surface glare, and provides good dimensional stability due to impregnation on the paper machine.

This demonstration was run offset from deep-etch plates, six up on a 35 x 45 press.

Write for free booklet —"How Will It Print by Offset"

S. D. WARREN COMPANY · BOSTON 1, MASS.

[BETTER PAPER Warren's STANDARD BETTER PRINTING]

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Printing Papers

ANN ARBOR

2nd Anniversary Marked

In June, the Ann Arbor Litho Club celebrated its second anniversary. At the monthly meeting, John W. Murphy, NALC president, gave a talk entitled "Education — the Agenda for the Sixties," in which he outlined the roll of litho clubs in this decade.

In his talk, Mr. Murphy briefly reviewed his "Guide to Action" program which he presented at the National Convention in May. Emphasizing that it is a guide rather than a "straight jacket," he said that the program consists of the following points:

1. More publicity about the industry.
2. Attracting better people into the industry.
3. Education of young people about the industry.
4. Sponsorship of technological research for the industry.
5. Improved relations with other graphic arts groups.
6. Increased professionalism in the industry.

(Full coverage of Mr. Murphy's "Guide to Action" appeared in the June issue of ML on page 100.)

WASHINGTON

Annual Fishing Party

The seventh annual Fishing Party of the Washington Litho Club will be held on August 19 at Solomons Island, Md. Buses will leave from the Interchemical Corp. (IPI) Building at 9:30 a.m. Lew Powers, district manager of IPI has extended an invitation to all participants to have coffee with him in his office while waiting to board the bus.

After the trip, dinner will be served at Lockerman's Restaurant. Facilities for traveling and fishing will be provided for 70 persons. Therefore, reservations will be received on a first come first served basis.

Additional information may be obtained from John Laverine, entertainment committee chairman.

New York Club Holds Litho Aids Night

THE season's final meeting of the New York Litho Club, held June 28 at the Shelburne Hotel, was attended by more than 150 persons. The program was entitled "Litho Aids and New Products," and featured speakers from leading suppliers and manufacturers in the graphic arts.

First to the rostrum was George Griffiths, of Harold Pitman Co., who discussed the Black Ray light and Tintometer. The Black Ray light indicates ultra violet reflective quality. Its use can determine proper exposure time to obtain good negatives. The Tintometer measures the amount of light transmitted through a half tone tint and indicates the percentage of tint.

Michael Canale, of Canale Chemical Co., was the next speaker. He described Do-All detergent, So-Quick press wash and Canopaque, a new material that Mr. Canale said will opaque on any material used by lithographers.

Third speaker was Carmine Sampugnaro, of Litho Plate Inc., who described his company's "900" premium offset blanket, which was developed originally for web presses but was found to run three to four times longer on sheet-fed presses.

Martin Hollander, of Anchor Chemical Corp., introduced his firm's new line of lubricants and distributed a reference chart listing grease and oil specifications for various type offset presses.

Edward Deedo, of Litho Chemical & Supply Co., spoke on three products currently being distributed by his firm. They are: a two-sided aluminum, presensitized plate; a wipe on plate; and wipe on Proof-Kote, useful for an internal check or as a possible substitute for blue prints or press proofs.

Next speaker was Peter Oliveri who showed, by means of a slide presentation, how a "hi-lo" may be machined into an efficient hydro skid turner, which will easily invert printed jobs without offset.

Fred McCurdy, of Macbeth Corp., gave a talk on Avlite, a recently developed flourescent tube which offers a new light source for transparency on colorprint viewing, completely in compliance with ASA standards.

Frank Lloyd, of Lloyd Plate Graining Co., described the advantages of grainless, bimetallic-surface, chrome-copper plates, which are being imported from France. He said that they make possible very fine screen reproductions.

Edward Murphy, of Roberts & Porter, explained how overhead in camera departments can be cut down by the use of the Theo-Hommel Roll Film Dispenser, which features a gear-driven rotary knife, and can handle several rolls at one time.

Thomas Kennedy, of Minnesota Mining & Manufacturing Co., described the new 3M color key proofing accuracy through use of ink pigments, Mr. Kennedy said. It also shows color break, fit and register by means of photo mechanical overlays.

Anchor man on the program was Harold Gegenheimer, of Baldwin-Gegenheimer, who discussed the firm's two latest developments, the Model S ink Agitator for small presses, and the number 40 Baldwin circulating water level, built especially for large webs and featuring a control reservoir with a capacity of 40 gallons.

It was announced that the club will hold its Fall Round-Up meeting at Plattduetsch Park on Sept. 16.

PHILADELPHIA

Fall Frolic Scheduled

Philadelphia Litho Club has announced that the organization's annual Fall Frolic will be held September 23 at the Sandy Run Country Club. Attendance will be limited to 110 couples and tickets will be distributed on a "first come first serve" basis.

New members of the club are Larsen Franchino, of Offset Printing Service; Harold D. Gabriel, of Du Pont Printing Div.; and Theodore D. Rommeredia, of J. P. Abbott Co.

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Applied directly to the impression cylinder (around or across), simply cut off the required amount from the box and remove the paper backing. With the coating of adhesive on the back LITHO-PERF is held firmly to the guide line.

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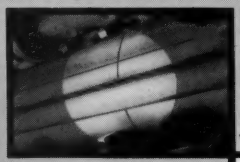

Litho-Perf comes in six foot strips in a dispenser box, $5.40, tape included. Also available in 20 foot lengths, tape included, $16.20.

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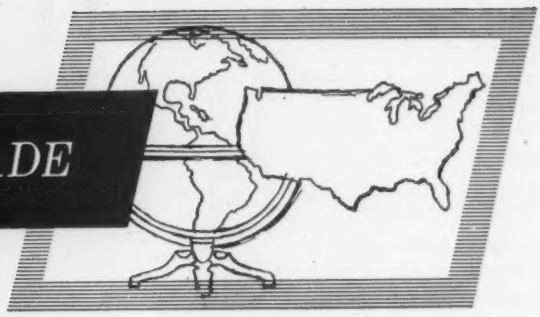

New York Firms Merge

Duenewald Printing Corp. and Konecky Associates, both of New York City, have announced merger. The name of the new firm is Duenewald-Konecky Lithographers, Inc. The organization is occupying a modern, air-conditioned plant at 45 W. 18th St., New York.

•

LPNA Workshop Set

LPNA will sponsor a fall Workshop Meeting, Nov. 27, at The Edgewater Beach Hotel in Chicago. The meeting will investigate, in particular, ways of developing capable executive personnel to assume plant management and leadership.

A variety of techniques, including "buzz sessions" and panel discussions, will be employed. The following subjects will be discussed: labor and industrial relations; sales management techniques and problems; profit budgeting and sales forecasting; decision making for executives; and direct costing, a tool for better management reports.

The Workshop will be conducted by management representatives and the LPNA staff.

•

Printers Fall Under Tax

Supported by two state supreme court rulings, Illinois printers have for more than a quarter century been successful in preventing imposition of the state sales tax on printing, on the ground that it is a service industry, performing a necessary function as do, for instance, dentists, barbers and motor repair shops. On June 30, this support was knocked out from under them.

Reportedly in an effort to balance the State's $3 billion budget, the Illinois legislature skirted the court restriction by imposing the tax, not on gross income of these service businesses, but on materials used in manufacturing their products. Accordingly, barbers will now pay tax on soap and hair oil, dentists on gold for filings, and printers on paper, ink and other supplies.

In addition, the legislature increased the tax from three percent to three and one-half percent, with another one-half percent permtited for municipal governments that elect to ask for it.

Illinois printers were not happy about the oblique action of the legislature. Displeasure was deepened, however, when it was learned that newspapers were exempted from payment of the tax on the paper and ink they consume.

Commenting on the legislature's action, O. H. Runyon, legislative representative of Printing Industry of Illinois, declared, "there's a lot of prospective business in line for the legal profession."

•

Wilmington ALA Settles

Wilmington, Del., lithographers recently announced a two-year contract settlement with members of the ALA in that city. The new contract will terminate June 30, 1963.

Highlights of the agreement include a 12-dollar a week wage increase, to be given over the two-year period; an additional one-half day holiday, bringing the total to nine; increase in the number of vacation days; and an increase in welfare contributions.

In addition, Trade Shop and Outside Work, Free Speech, Representation and New Machines security clauses were included.

New York Firm Purchased

Trautmann, Bailey and Blampey, 77-year-old New York Lithographic firm has been purchased by Arcus-Simplex-Brown Inc. Both companies are located in the same building at 13 Laight St., New York City.

James S. Arcus Jr. has been named president of the purchased firm, which will continue to operate as a separate company under its own name. James S. Arcus Sr., who is chairman of the board of Arcus-Simplex-Brown, has been named vice president, and William T. McNeill, secretary.

In announcing the purchase, Mr. Arcus Jr., who is also chairman of the Ticket & Coupon Section, PIA, said that Trautmann personnel would be retained, and that the purchased firm will undergo an expansion program in equipment and services.

•

West Coast Web Meeting

Approximately 100 lithographers and printers from the western states and Alaska attended the first West Coast Web-Offset Conference, held July 28 at the Canterbury Hotel, San Francisco, under sponsorship of Graphic Arts Employers Association.

Featured speakers were George Mattson, Web-Offset Section, PIA; R. B. Renny, president, Craftsmen Press, Seattle; F. Petersen, Standard Publishing Co., Cincinnati; and K. L. Wallace, Kimberly-Clark Corp., Neenah, Wis.

Wayne Wade, secretary-manager of GAEA, said the conference was arranged in response to "the intense interest western lithographers have shown in the web process, and because the process is still in the pioneer stage in the West."

General technology of the process was the main subject discussed.

MICR Center Opened

Burroughs Corp., Detroit, Mich., has opened the country's first permanent consultation center for the financial industry's new electronic language, magnetic ink character recognition.

Kenneth Larrance, Chicago district manager, has announced that a 12,000-square-foot expansion of Burroughs Mid-America Exhibit Center has been made to house equipment, including a full-scale electronic data processing system, which was developed especially for the new technology. The center is located at 324 S. Michigan Ave. in Chicago.

MICR, the common language of American, British and Canadian banking, is comprised of numbers and symbols which are printed in magnetic ink on checks and other documents.

Bankers from all parts of the country are expected to visit the MICR Center to investigate applications of MICR equipment and systems to various financial operations such as checking, savings, mortgage and installment loan accounting.

Highlight of the center is the Burroughs B251 Visible Record Computer, a four-unit device for processing checks, deposit slips and other documents. The computer system includes an electronic sorter-reader which reads and sorts items at speeds up to 1,560 a minute.

•

Western P & L Expands

Western Printing and Lithographing Co., Racine, Wis. has announced plans to construct a new plant in Cambridge, Md. Date construction will begin was not disclosed.

Paul H. Lyle, executive vice president of Western, will be largely responsible for the Maryland project.

•

Johnston Buys Miers

Miers Lithographic Service, Allentown, Pa,. has been purchased by William G. Johnston Co. Pittsburgh, and has been newly incorporated as Miers Lithographic Service, Inc.

Harry M. Fritz, Johnston president, has been named president of the Miers Co. and C. Garrett Miers, one of the founding partners of the purchased firm, vice president and general manager. Harry T. Gardner, Johnston vice president, is secretary.

The Miers Co. employs 50 persons and specializes in lithographic four-color process work. The firm also does commercial printing in color and black and white, and prints beverage and beer labels.

Morgan Memorial Fund

The following letter to ML readers is a message from the committee appointed by the National Association of Litho Clubs to handle contributions to the W. O. Morgan Memorial Fund:

A Memorial Fund has been established to perpetuate the memory of our late friend, Toby Morgan. The National Association of Litho Clubs has asked if we would serve on a committee to seek contributions and to assist in the distribution of these funds to some worthwhile cause. This is, therefore, an appeal for any kind of contribution that you would care to make.

With your help, the fund can represent a very worthwhile contribution to the welfare of the graphic arts. At the very least, the Toby Morgan Memorial Fund could be used to award Graphic Arts Scholarships in Toby's name or to aid scientific research in the graphic arts.

We have already received several donations and are looking for many more. Any contribution you can make will be highly appreciated and would certainly help the fund to function in a manner worthy of Toby's good name. Checks should be made payable to the W. O. Morgan Memorial Fund and mailed to John McMaster at the Eastman Kodak Co., 343 State St., Rochester 4, N. Y.

Sincerely yours,
B. E. Callahan
H. A. Porter
W. J. Stevens
John McMaster, Chairman

Local 71 Files Complaint

Bernard Winterman, business agent of Stationary Engineers, Local 71, recently declared that unfair labor practice charges had been filed against Stecher-Traung Lithograph Co., Rochester, N. Y.

The company acknowledged receiving a copy of the charges filed with the National Labor Relations Board. Vice president W. Bayard McCoy said that "until he had a chance to study the allegations there would be no comment."

The union contends that the company had locked out four union engineers, refused to bargain in good faith on a contract, and refused to negotiate the employes' return to work.

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Clary Buys United Machine

Clary Corp., San Gabriel, Calif., has announced the purchase of United Machine Co., Fort Worth, Tex., manufacturer of web-offset presses for business forms, publications and advertising materials. Purchase price was not disclosed. The firm will be operated as the Clary Graphic Arts Div.

United Machine recently developed and began marketing a new web-offset multi-color press for printers of small publications and advertising materials. It also has developed and will shortly market a collator for use in connection with its business forms presses.

•

International Exhibit Set

Visual Communications Congress, Detroit, Mich., has announced the scheduling of the annual exhibit of the International Visual Communications Congress. Under sponsorship of the Society of Reproduction Engineers, the American Institute for Design and Drafting, and the American Records Management Association, the exhibit will be held at the Biltmore Hotel in Los Angeles, Dec. 2-5.

More than 100 firms will participate in the exhibition, which is expected to attract more than 8,000 persons from throughout the U. S., North America, South America, Europe and Asia.

But not with strangers

You can put your feet up with friends and be utterly yourself! But with the strangers, or business acquaintances to whom you write, such informality isn't sound.

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* * *

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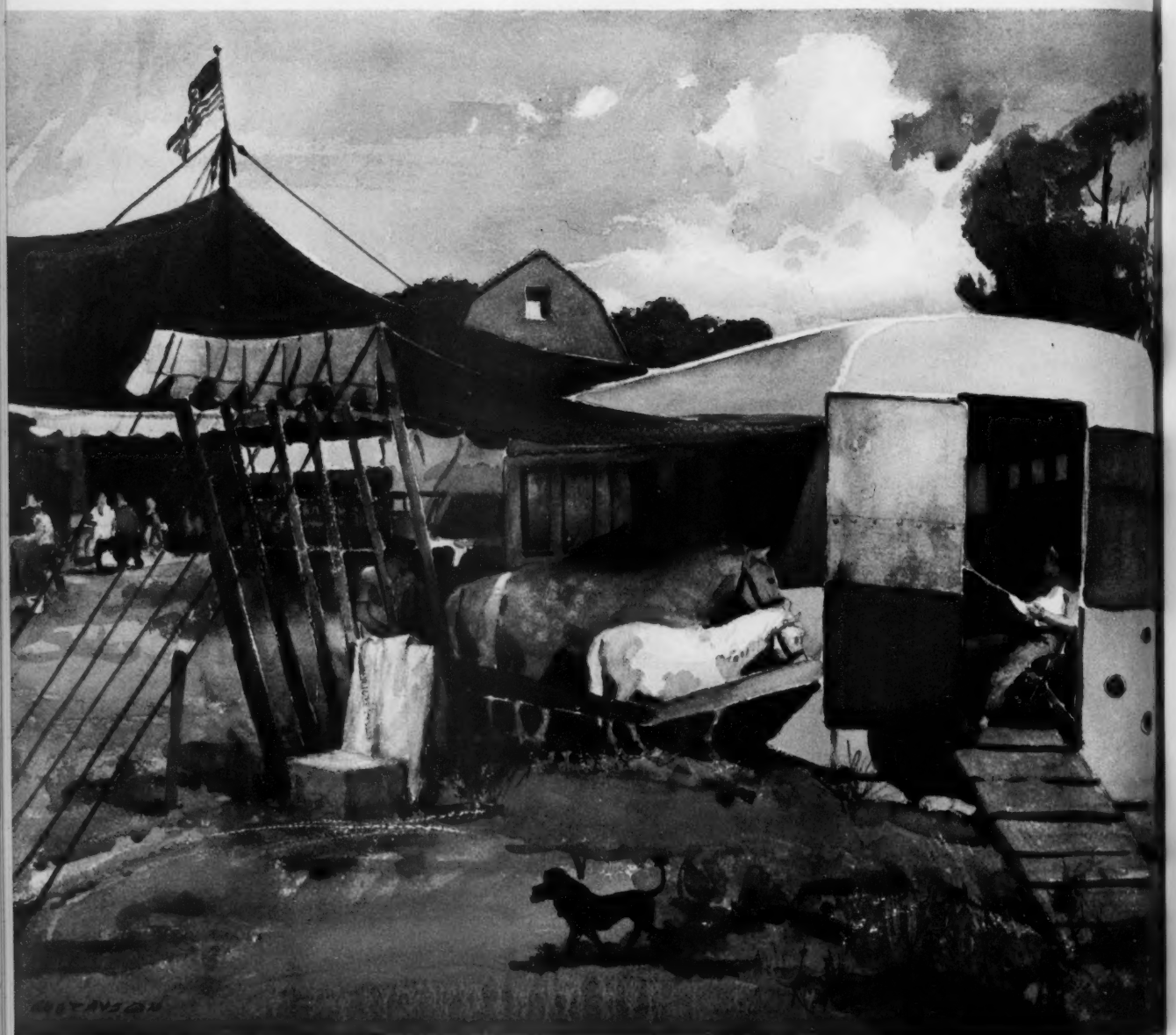
Presenting Lealand Gustavson, prize-winner, noted national magazine illustrator, exhibitor in the American Water Color Society, among many others. In this vivid water color, Mr. Gustavson describes an interesting and unusual interlude of inactivity behind the Big Top. Here it is, with bright colors and subtle tones, wonderfully reproduced on *Maxwell Offset*. Be certain of "prize-winning" color work of your own. Your success demands it . . . *Maxwell Offset* assures it.



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GPO Celebrates Anniversary

The Government Printing Office celebrated its 100th anniversary on June 27 with a dinner at Harding Hall. Guests included members of Congress' representatives of the printing industry and GPO employes.

Principal address was delivered by Hon. Omar Burleson, representative from Texas, and vice chairman of the Joint Congressional Commiittee on Printing.

Among those present were Nathaniel G. Watts and Harry F. McGrowan, the two oldest known retirees of the GPO, and Augustus E. Giegengack and Raymond Blattenberger, former Public Printers.

Members of Congress attending were Senator Jack Miller of Iowa, Representative Tom Steed of Oklahoma, and Representative Walt Horan of Washington.

•

G. E. McLaughlin Retires

George E. McLaughlin, for the past 25 years secretary and superintendent of the Voorhees Technical Institute, formerly the New York Trade School, announced his retirement in June. At the request of the school's board of trustees, he will continue to serve in an advisory capacity.

An organizer of many of the school's technical courses and apprentice programs, Mr. McLaughlin also organized and established a technical school in Indonesia for the Standard Vacuum Oil Co.

•

Four-Firm Merger Announced

One of the largest trade mergers in the Washington D. C. area in many years took place July 1, when four reproduction supply and services firms, serving metropolitan Washington and nearby Maryland and Virginia, formed a combined organization, now known as Allied Blueprint Co.

The concerns sharing in this consolidation are Blocher Blue Print and Supply Co., Georgetown Reproduction, Inc., Leet Brothers Co., Inc., and Quick Print, Inc.

Services furnished by the new company will include offset and multilith duplicating, Xerox and Acroline 105mm reproductions, blue prints, white prints and photo copies, drafting supplies and industrial photo materials.

Officers of the new corporation are William F. Blocher, president; Robert E. Kerwin, vice president and Plant Manager; G. Bryan Leet, vice president and sales manager; Edward R. Hughes, vice president at Falls Church, Virginia plant; Harvey P. Leet, treasurer; and Joseph V. Park, secretary.

3M Research Department Toured

PRINTING industry leaders got a preview of future developments in the industry during a visit to the research center of Minnesota Mining and Manufacturing Company at St. Paul, June 21-22.

Among the guests of 3M were the top officers of seven major industry associations. Hosts during the visit were Ed Kane, general manager of the Printing Products division of 3M, and Clare Goodsell, general sales manager of the division.

Highlight of the visit was a demonstration of current research projects being carried on by 3M. Many of the products are in the prototype stage, while others are currently being field tested by the Technical Services group of the division.

During a recent tour of 3M research facilities, visitors watch Melvin Gebhard, back to camera, Printing Products division technical director, show a new research project. Making the tour were, l. to r., W. A. Westphal, of National Meal Decorators Association; Carl Kreutz of 3M (behind Westphal); J. T. Morgan, National Association of Photo-Lithographers; R. M. Edgar, International Association of Printing House Craftsmen; H. J. McNulty of 3M; Paul Lyle, Research and Engineering Council of Graphic Arts Industry and also Web-Offset Section of Printing Industry of America; W. R. Coddington, Mechanical Section of American Newspaper Publishers Association; and A. D. Gunderson, National Yearbook Manufacturers Association.

Mr. Kane said the invitation to visit the research center is extended annually to a cross-section of the top officials of all major industry associations. "Because of their positions in the industry," he said, "we at 3M feel it is imperative these men are abreast of the latest developments from the 3M laboratories. The most satisfactory way to do this is to invite these men to the scene of the developments, here in St. Paul."

Oxford Names Hovey

Philip L. Hovey has been named vice president of operations of Oxford Paper Co., New York.

Mr. Hovey joined Oxford in 1939. In 1957, he was elected vice president of manufacturing and, in 1960, a director of the company. (In the June ML, it was erroneously reported that W. H. Chisolm was named vice president of operations. Mr. Chisolm is president of the company.)

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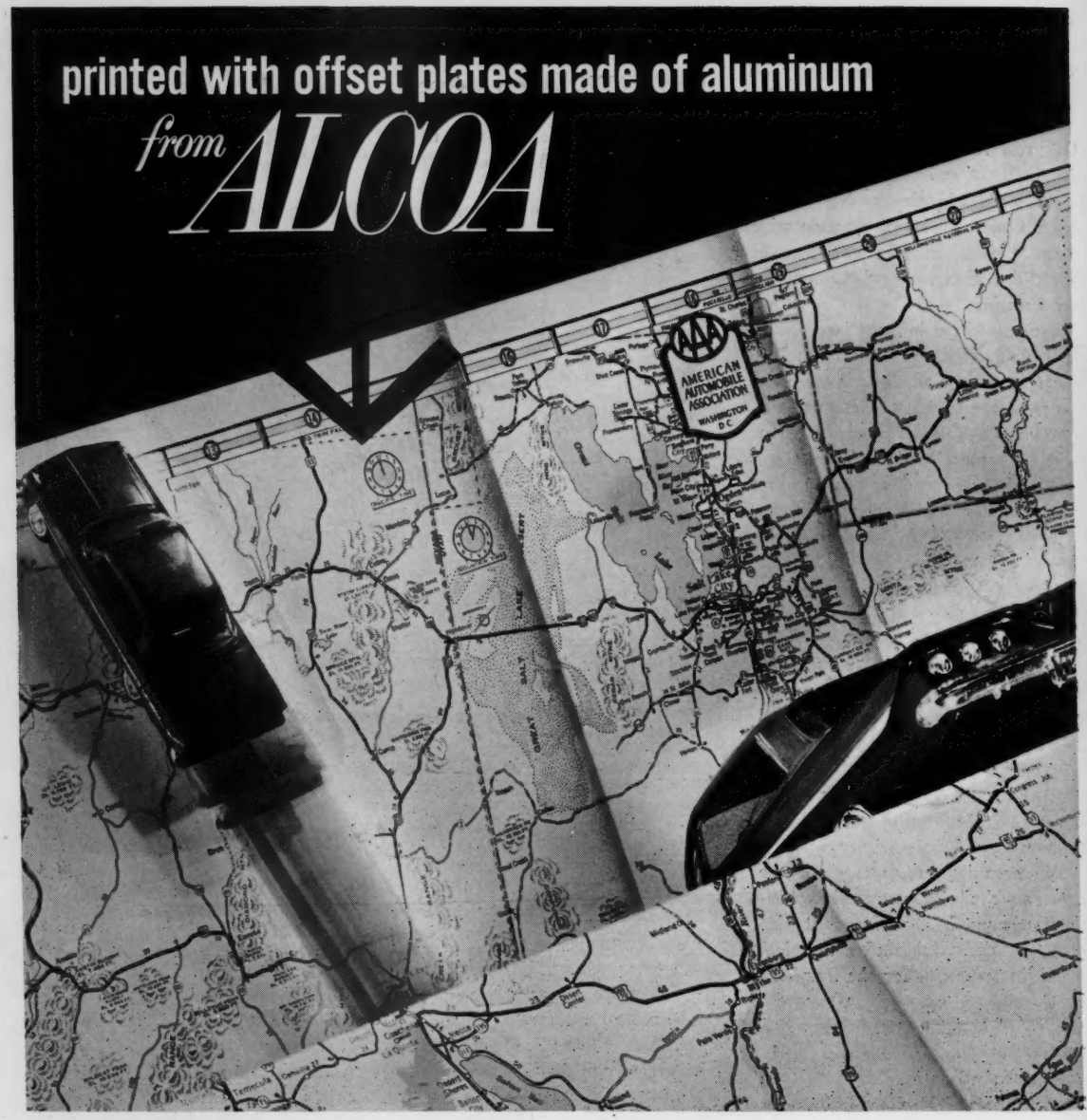

Haynes Litho helps steer the American motorist

Haynes Lithograph Co., Rockville, Md., map printer for the American Automobile Association, produces more than 15 million AAA road maps and more than 100 million AAA Trip-Tiks annually. For economy and the precise control necessary for this intricate multicolor work, Haynes prints only with grained aluminum plates made of Alcoa® Aluminum.

Charles W. Cook, Haynes vice-president, states, "Jobs like AAA maps demand the best in craftsmanship and materials. That's why we've standardized on aluminum offset plates. They stand up under long runs and are easier to handle. With aluminum, we've found we have less press down time. Aluminum plates keep perfect register — resist stretching and wrinkling on the press."

Today, most top lithographers have switched to aluminum. There are sizes and types of plates for every job—surface, deep-etch, presensitized, wipe-on and bimetallic. Litho plates of Alcoa Aluminum are available from reliable manufacturers and suppliers. For a list of their names and our folder about aluminum plates, write Aluminum Company of America, 1831-H Alcoa Building, Pittsburgh 19, Pa.

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ALCOA ALUMINUM

LITHO QUALITY

ANPA Holds Offset Conference

BY H. H. SLAWSON
Chicago Correspondent

SINCE the first successful daily offset newspaper, the Opelousas, La., *Daily World,* was launched in 1939, the nummber of newspapers switching to offset has grown steadily. Today, 40 daily newspapers are printing by the lithographic method, as well as an estimated 600 weeklies.

In recognition of this rapid expansion, the Research Instiute of the American Newspaper Publishers Association arranged for a daily newspaper offset conference, which was held June 8, immediately following conclusion of the parent organization's 33'rd regular production-management meeting in Chicago. More than 1,000 newspaper publishers and production men attended the conference.

The day-long program, prepared under the direction of Charles H. Tingley, managing director of ANPA's Easton, Pa. Research Institute, presented technical discussions of offset operations, and appraised basic economic problems involved in offset production.

In addition, members of the Research Institute staff presented discussions on the place of hot and cold composition in offset, proofing methods, and camera and plate making techniques. A survey was also presented of available offset presses and their merits for daily newspaper production.

To demonstrate the quality color work possible through offset production, sample sheets of a French biweekly publication, *L'Automotive Journal,* printed in Paris, were distributed. The samples were heavily illustrated in four colors. Moderator C. H. Tingley said that they had been printed at 30,000 copies an hour on a press manufactured in Europe. He went to say that he was confident that the same quality work, at similar speeds, could be done in America.

A trend now emerging in the offset newspaper field is the practice of a publishing house issuing its own offset newspapers and, in addition, handling the printing of newspapers of other publishers. Discussing this trend, the conference reviewed the operations of Lloyd Hollister, Inc., of Wilmette, Ill., which prints a daily and 14 weeklies, most of which are for other newspaper companies.

Accompanied by a slide presentation, the panel also discussed the Tri-County Publishing Co., of Lement, Ill. This company produces 22 weekly offset newspapers, 16 of which are for other companies.

At the afternoon session, reports on experiences with offset newspaper production were presented by John H. Thistlethwaite, publisher of the Opelousas, La. *Daily World;* T. McBrayer, publisher of the Arlington, Tex. *News-Texan;* and Carol Knicely, of the Glasgow, Ky. *Times.*

Following was a talk by W. D. Rhinehardt, director of the Research Institute's mechanical and service division. Mr. Rhinehardt said that the primary advantage of offset to the daily newspaper is its ability to run 130-line screens (a stereo type newspaper press only can run 75-line screens). "This," he pointed out, "makes it possible for a newspaper to make extensive use of realistic photographs that readers like."

Summing up the case for expansion of web-offset in the newspaper field, Moderator Tingley said, "It is still too early to predict whether or not we are entering into a new era of printing in the daily newspaper field. We must realize that future expansion will depend much upon developments for which manufacturers are feverishly working. However, one thing that cannot be disputed is the fact that the quality of reproduction obtained by the web-offset method is superior to that which we are presently obtaining with letterpress."

•

Douthitt Corp. Moves

Douthitt Corp. photo-mechanical, plate making, and reproduction equipment manufacturers, has moved to a larger plant at 245 Adair St., Detroit, Mich.

Shapiro Joins Hopper

Hopper Paper Co. has announced the appointment of Charles Shapiro as technical director at the firm's headquarters in Taylorville, Ill. He

C. Shapiro

will be responsible for quality control procedures and research, and development of papers to meet the needs of new and improved printing production techniques.

Mr. Shapiro is also serving as assistant chairman of L. T. F.'s Education Committee. He had served as committee chairman until resigning in June to join Hopper Paper. He was succeeded by Anthony Genovese (June ML, page 122).

•

Kohler Moves

Kohler & Sons, have moved into a new plant at Elmwood and Page, St. Louis which is completely air conditioned and humidity controlled.

A new plate making department has been installed and, in addition to existing presses, a new 35 x 45 two-color Harris press has been added.

•

Interchem Joins ECM

Interchemical Corp., New York, is entering the European Common Market through purchase of controlling interest in Lafleche Fils, S.A., French producer of ink. Details and terms were not disclosed.

Herbert B. Woodman, president of Interchemical, said the move was prompted by the growth of packaging in Europe. More than one-third of the company's domestic sales involve inks and other materials for the packaging industry here, he said.

Interchemical also announced plans to make future outlays for capital improvements at Lafleche plants situated in the Paris area. In addition, the firm is also negotiating for similar acquisitions in Germany and Italy.

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Miehle International Div.

Formation of a separate division for marketing the firm's products abroad has been announced by Miehle-Goss-Dexter, Inc., Chicago. The division will be known as Miehle-Goss-Dexter International Co. Its general offices will be in the M G D Corporate Headquarters Building, 3100 S. Central Ave., Chicago.

T. Niglli, who has been with Miehle 18 years, has been appointed general manager of the company, and A. J. Krohn and G. F. Ste. Marie have been named vice presidents.

Prior to the formation of the new company, each Miehle division and subsidiary had its own independently operated international department. Most of the personnel from these departments have been transferred to the new division.

•

Paper Prices Cut

Kimberly-Clark Corp., Neenah, Wis., has announced that, effective August 1, the firm will cut from $3 to $10 dollars a ton off the price of some of its roll grades of printing papers.

A representative of the company said that the cuts "reflect today's competive situation in certain lines of paper. While lower prices are not warranted on cost basis, we do consider them essential to the long range interests of both our customers and ourselves."

The cuts reportedly affect papers used mainly in letterpress and rotogravure production of magazines and catalogs.

•

Kleen-Stik Purchased

National Starch and Chemical has announced the purchase of the Kleen-Stik Products, Inc. The purchased firm will operate as a National subsidiary. Present management will continue to direct operations.

Kleen-Stik produces pressure sensitive labelling papers, foils and films, which are sold to printers for conversion into labels and point-of-purchase materials used in packaging and merchandising fields.

•

Inter. Conference Held

At the Sixth International Conference of Printing Research Institutes, held at Elsinore, Denmark, May 14-19, special attention was given to the problems connected with web printing at high speeds, and those connected with the offset newspaper printing.

Under sponsorship of the Graphic College of Denmark, the meeting presented 23 technical papers and eight special lectures. The College has announced that the papers, as well as the lectures, will, in the near future, be published by The Pergamon Press in England.

The next international research conference will be organized by the British Institute, PATRA, in 1963. The subject will be "Halftone Reproduction."

ATF Honors Top Salesmen

The 1960 American Type Founders Honor Club, composed of nine ATF salesmen and one branch manager who topped all others in sales performance last year are shown at Montego Bay, Jamaica. They are, l. to r., G. R. Dollievr, Boston Branch; Arthur N. Sirles, Atlanta; Marvin Edner, San Francisco; Willis Johnston, San Francisco branch manager; Phil Glaser, Atlanta; T. Pearson, Atlanta; and Mel Norris, Chicago. Members of the club not shown are W. E. Dutney, Philadelphia; Charles Hinkle, New York; and Charles Atello, Philadelphia.

Coronet To Stop Printing

Coronet magazine will be discontinued with the 25th anniversary issue in October. The monthly magazine, which employs offset printing in its production, had reached a record circulation of 3,120,000 during the past year, but could not keep up with rising production costs.

A. L. Binder, president of Esquire Inc., which publishes *Coronet,* announced recently that "after negotiations lasting several months, *Coronet* magazine has been unable to find any organization inside or outside the publishing business willing to take over the publication."

He went on to say that "the continued rise of operation costs in the mass magazine field has resulted in increasing losses. The decision to discontinue publication offers the only remaining solution to the problem. We will concentrate our publishing activities in the specialized magazine field, represented by *Esquire* and *Gentlemen's Quarterly,* both of which are operating at a profit."

•

Samuelson Appointed

The Coating and Graphic Arts Division of the Technical Association of the Pulp & Paper Industry has announced the appointment of H. A. Samuelson as chairman of the Subcommittee on Paper Surface Strength, which is under the supervision of the Graphic Arts Committee.

Other appointments to the subcommittee were A. C. Hamilton, M. Lovensheimer, and R. C. Hagerman. The division also announced plans to conduct a series of tests on suggested methods for determining surface strength of paper, the results of which will be published as soon as the tests are completed.

•

Newspaper Presses Installed

Installation of Vanguard presses into weekly newspaper plants since the first of the year have been announced by The Cottrell Co., a subsidiary of Harris Intertype Corp.

Plants installing two-unit presses include Bryce Publications, Montpelier, O.; Pulaski Publications, North Little Rock, Ark.; Myrtle Beach News, Myrtle Beach, S. C.; Graphic Press, Richmond, Ind.; Red River Scene, Moorehead, Minn.; and Lea County Publishing Co., Hobbs, N. M.

Plants installing four-unit presses include Springfield Publishing Co., Springfield, N. J. and Newspaper Enterprises, Inc., Dallas, Tex.

The Vanguard, a web-offset press designed specifically for the production of newspapers, will print, fold and deliver a 16-page standard paper, or a 32-page tabloid, at the rate of 12,500 an hour, the company reports.

Butler Heads Atlanta PIA

John Butler, vice president of John H. Harland Co., has been installed as president of the Printing Industry Of Atlanta, Inc.

Other officers installed were A. C. Castleberry, of Tucker-Castleberry Printing, Inc., vice president; and Theo Bean, of W. R. Bean & Son, Inc., treasurer.

Board members are Doris Blankenship, Milo C. Diller, Gerald Ghertner, Wingate Jackson, George Moseley and John Lundeen.

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Wausau Laid Bond (w)
Wausau Mimeo Bond (w)
Wausau Duplicator (w)
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Wausau papers*

NAPL Wage Study

NAPL has released a wage study entitled "Compensating Your Key Personnel," which deals specifically with salaries and fringe benefits paid to superintendents, foremen, scheduling and production help, purchasing agents, estimators and order writers. The association reports that more than 280 lithographic plants cooperated in the study, which took more than a year to compile.

The survey is 26 pages long. In addition to individual reports on plant personnel, the survey presents overall averages of the various categories sampled. For example, in plants with a sales volume of less than $500,000, it was found that, of 32 superintendents sampled, the average wage was $9,034; average number of persons supervised was 14; average number of vacation days granted was 12; and the average life insurance policy value was $3,156. All but six superintendents surveyed were given health and welfare benefits.

As another example, in the estimator class it was found that, of 28 persons sampled in plants with a sales volume of more than $1 million, the average salary was $7,999; average number of vacation days granted was 13; and average life insurance policy value, $3,8933.

A copy of the survey is available to all NAPL members.

•

Lithoplate Names Koch

Richard W. Koch has been named director of product development by Lithoplate, Inc., Covina, Calif., a subsidiary of Harris Intertype Corp. Mr. Koch will have responsibility for product development programs at Lithoplate, and will work closely with the Harris Intertype Central Research Laboratories in Cleveland.

Mr. Koch conducted studies of light sensitive materials and worked on special printing products during six years with Battelle Memorial Institute. More recently he was manager of engineering research for the Todd division of Burroughs Corp., Rochester, N. Y. He has also served as a technical consultant to Printing Industry of America, Inc.

'Soft Sell' Is Often Too Soft

BY MILDRED WEILER

No matter how unique or attractive a sales promotional piece may be, there are certain basic elements that must be included in it if it is to be completely successful. They are what could be called the five W's of advertising—who, what, where, when and why. Common sense dictates their presence. Yet, it is surprising how many businessmen fail to include these elements in advertising pieces.

Moreover, it is equally surprising that a great many printers fail to seize the opportunity of assisting the customer by pointing out important omissions before the job is on the press. With just a little alertness, the printer could win himself many a satisfied customer.

In a recent survey of 20 advertising pieces aimed at customers in a new community, the following omissions were discovered:

1. A four-color "self-mailer" told about a company's service, but neglected to list store hours, particularly what evening the store might be open. The advertiser also failed to print his phone number on the self-mailer, so the recipient might conveniently ask for information.

2. A bank delivered a pretty ash tray in a gift box, with the name of the bank imprinted but nothing on or in the box to indicate what nights the bank might be open. There was no phone number given either.

3. A laundromat sent a red plastic measuring spoon which included the name, address and phone number of the company. But the measuring spoon was good for one tablespoon of coffee, not detergent! In other words the item had absolutely nothing to do with the laundry business.

4. Another sent a letter offering a free gift of merchandise of a certain value when the recipient came into the store. The advertiser neglected to give the date the offer expired.

5. A food manufacturer sent beautiful multi-color wrappings of his products, along with a letter explaining that the return of a certain number of wrappings would entitle the buyer to a cash refund. Nothing was said about the product.

'Alumni Man of the Century'

Nathaniel G. Watts, center, former instructor of apprentices at the Government Printing Office, has been named "Alumni Man of the Century" by the GPO Alumni Association, and was an honored guest at the GPO's Centennial Dinner, June 27. Mr. Watts is now mayor of Naples, Texas, and publishes the Naples Monitor. On his left is Deputy Public Printer Harry D. Merol, and on the right is Public Printer James L. Harrison.

Finch, Pruyn Names Three

Finch, Pruyn & Company, Inc., Glens Falls, N. Y., has announced appointment of E. John Parry as pub-

Parry *Johnson* *Bidwell*

lic relations and communications manager; Myron P. Johnson, sales representative; and David C. Bidwell, sales promotion manager.

Mr. Parry, who will also serve as acting personnel director during the convalescence of Louis T. Valley, was formerly personnel director of a New York state paper mill. Mr. Johnson was previously a factory representative in the laminated plastics field and Mr. Bidwell was formerly on the staff of a gift-wrappings manufacturer.

•

Boyle Heads Phila. PIA

Frank F. Boyle was recently elected president of Printing Industries of Philadelphia, Inc., at the association's annual meeting at the Bellevue-Stratford Hotel, Philadelphia. He is vice president of manufacturing at Allen, Lane & Scott, Philadelphia printers. He was first vice president of PIP last term, and succeeds John V. Kratz, of John V. Kratz Co. Mr. Kratz has been named first vice president.

All other officers were reelected for a second term. They are Joseph M. Flounders, president, Schuylkill manager for Harris Seybold Co., has Paper Co., second vice president; Harold B. Pressman, president, Pearl-Pressman-Liberty Printing & Lithographing Co., treasurer; and Roy C. Imsick, superintendent of E. I. du Pont de Nemours' printing plant in Philadelphia, recording secretary.

It was reported at the meeting that 25 new members had joined the association during the past year. The Education Committee also reported plans for seminars in teaching techniques, to be conducted for the instructors of the PIP Evening School of Printing Management.

New members of PIP's Board of Directors are James T. Bingham, general manager, Vincent B. Fuller Typesetting, Inc.; Edward P. Chance, Jr., vice president, Westcott & Thomson, Inc.; Howard E. Friend, president, The Phila. Bindery, Inc.; Raymond H. Green, district manager, Harris-Seybold Co.; Charles A. Grumbling, Jr., president, Lithographic Service Co.; William L. Liggett, vice president, Periodical Press Corp.; William F. Tierman, Jr., vice president, Williams & Marcus Co.; Russell H. Trenholme, general manager, Cuneo Eastern Press, Inc.; Hans E. Weiss, vice president, Foster Type & Equipment Co.

•

Fairchild Forms Division

Formation of a Business Machines Division for the manufacture and marketing of paper handling equipment was announced last month by Fairchild Camera and Instrument Corp., N. Y.

C. F. Shaffer, formerly marketing been named division general manager for the new operation, which has headquarters in Cleveland.

The Division's line of products will include postage meters, postal scales, folding machines, collators, inserters and other types of mail room equipment. First products are scheduled to reach the market by September, 1961. Plans call for the initial product line to be substantially broadened as the Division expands.

•

Semco Reorganized

Reorganization of Semco Color Press, Oklahoma City, has been completed. The program began upon the death of the firm's founder and president, B. L. Semtner, April 30.

New president is B. L. Semtner, Jr., who has placed operations in the hands of several of the firm's executives. General executive authority will be handled by Harold Dobson, executive vice president and general manager of the firm for the past 27 years.

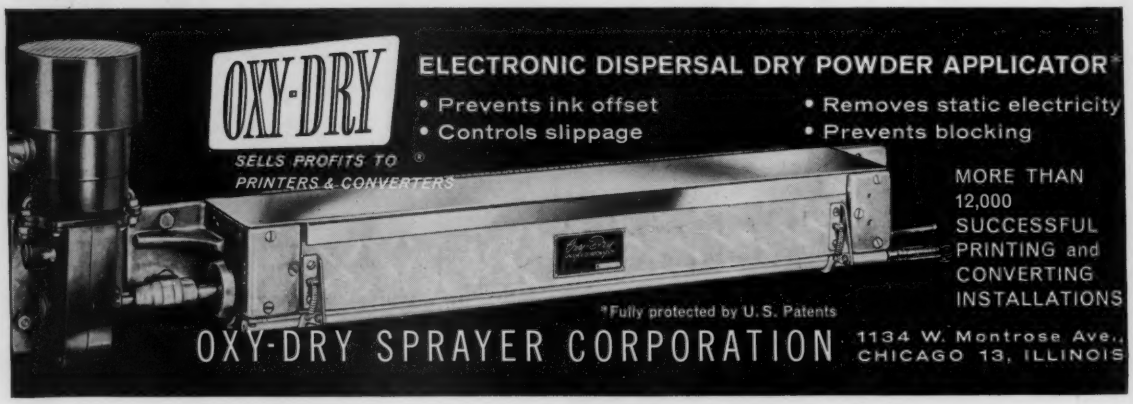
•

S & V Names Two

Sinclair & Valentine Co., Printing Ink Div. of American-Marietta Co., New York, has announced the appointment of two managers.

Ronald A. Beyer has been named Savannah Branch manager, succeeding district manager W. R. Mosby, who has been relocated to district headquarters in Nashville. Mr. Beyer has been with S & V since 1950.

Harold Deal has been named manager of the Philadelphia Branch Office. He has been with the company since 1955.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ELECTRONIC DISPERSAL DRY POWDER APPLICATOR*
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• Controls slippage
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blank spaces?

are there blank spaces in your knowledge of the lithographic industry? ■ *Or could you and your key employes profit from a refresher in labor relations, selling techniques, cost accounting, creative photography, web-offset and a variety of other topics?* ■ *Have you seen all the new equipment and supplies that are providing added impetus to lithography?*

If you want to bring your knowledge of lithography right up to the minute, the 29th annual convention and exhibit of NAPL is the place to do it! ■ *New York, Hotel Commodore, Sept. 27-30. Write today, to*

National Association of Photo-Lithographers

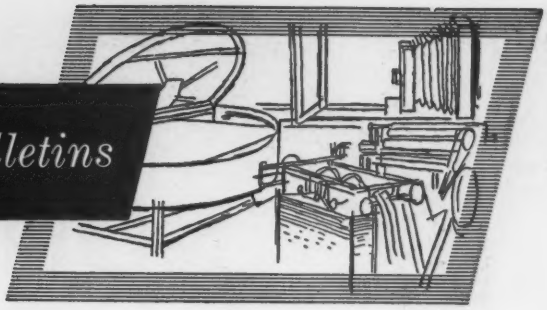
230 W. 41st St., New York 36, N. Y.

for convention details. ■ *And remember, you need not be a member to attend!*

No matter where, when or how you look at St. Lawrence Offset Enamel, you know it at a glance. You know it for its high whiteness, its high gloss. On the press—at high speeds, it's a slick performer, a tight grip for inks. Color and art won't bury its identity or dull the brilliance of this versatile Newton Falls paper. Use St. Lawrence Offset Enamel once—know it whenever, wherever or however you look at it thereafter.

NEWTON FALLS PAPER MILL, INC.
330 West 42nd St., New York 36, N. Y.

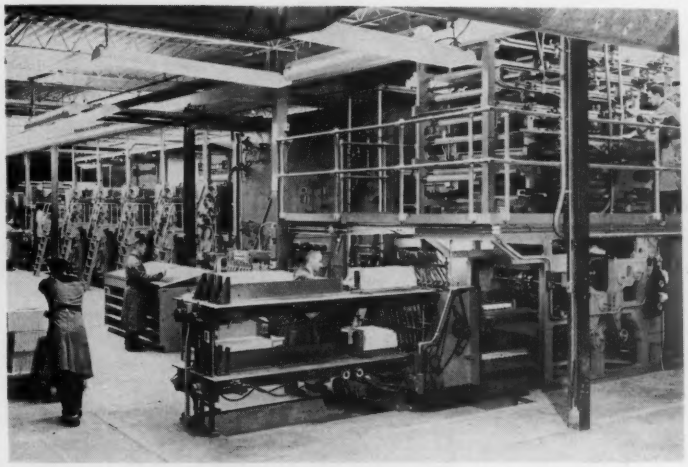
Equipment, Supplies, Bulletins



Million Dollar Web Press Installed

Standard Publishing, Cincinnati, has installed the largest commercial web-offset printing press in the Cincinnati area.

Valued at nearly $1,000,000, the press is capable of printing 10 colors at the rate of 1200 feet of paper a minute. This is equal to producing four hundred 32-page books, printed in five colors, every sixty seconds.



ATF press, valued at nearly $1 million, is capable of printing 10 colors at the rate of 1200 feet of paper a minute. Standard speed is 24,000 impressions an hour.

The press is fed from an endless roll of paper 50″ wide. The continuous feed is made possible by an automatic web paster which attaches the beginning of one roll to the end of the one feeding the press.

According to James N. Johnson, president of Standard Publishing, the new press will increase the firm's web printing capacity by 100 percent.

The press, including the folder and bundling device, is 86 feet long, 27 feet wide and 14 feet high. The installation is composed of five offset printing units, capable of printing both sides of the web simultaneously. Standard speed is 24,000 impressions an hour. An integral gas-fired oven dries the inks for handling by the self-contained folder.

The press and folder were manufactured by American Type Founders Co., Inc., Elizabeth, N. J. The bundler is a product of A. R. Stobb & Son, Inc., Racine, Wis. Hurletron, Inc., Electric Eye Equipment Division, Danville, Ill., manufactured the electronic control system. Wood Newspaper Machinery Corp., of Plainfield, N. J., built the automatic web feeder assembly.

The press is currently in operation and capable of consuming more than three carloads of paper every eight-hour shift.

Offset Preventer

Oxy-Dry Sprayer Corp. has released a brochure giving technical information on the firm's Ink Offset Preventer, which is an electronic dispersal dry powder sprayer.

The device overcomes ink offset, blocking and slippage problems, the company reports.

A copy of the brochure is available from the company at 1134 West Montrose Ave., Chicago 13.

•

Negative Paper Improved

A fast-printing silver paper for making negatives has been introduced by Keuffel & Esser Co. The paper is an improved version of the firm's 408TG Photact contact paper.

The main feature of the improved paper is a faster emulsion which enables increased printing speed.

Additional information may be obtained from the company, 3rd and Adams Sts., Hoboken, N.J.

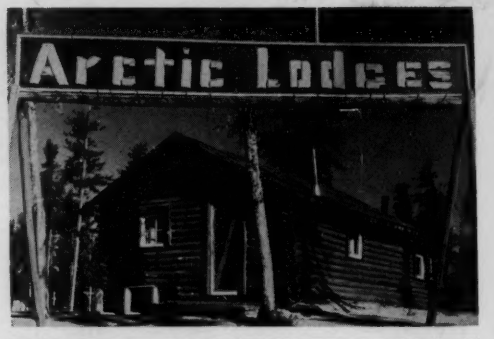
•

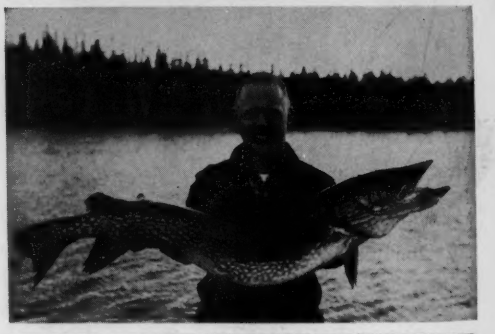
General Product Brochure

General Plate Makers Supply Co. has released a brochure describing three new products now being distributed by the firm: Convert-A-Proof Paper, Blak-Ray Lamp and Ultra-Violet Light Eliminator.

Convert-A-Proof is an imported proofing paper, with opal base, which can be contacted directly to film. The Blak-Ray Lamp is designed to be used as a detector of fluorescence, and operates in conjunction with the Ultra-Violet Light Eliminator, which is a mylar sheet that attaches to the lamp face, thereby eliminating bounce light from reaching the copyboard.

The brochure contains illustrations, technical information and prices. A copy may be obtained from the firm at 5441-61 N. Kedzie Ave., Chicago.





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- On the fringe of the ARCTIC 700 miles deep in the Canadian wilderness . . . midnight sun, howling huskies, natives and nature in the raw. Wily Arctic Grayling, surfacing Trout and the ever-present Northern Pike.
- Air transportation, in six hours, brings Twentieth century sportsmen back into the civilization of early explorers.
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- For the last two years "Argosy" Magazine has recommended our lodge as the outstanding fishing spot in Canada. United States Rubber's million dollar fishing vacations contest picked Arctic Lodges as Number One among the world's seven greatest fishing spots!

For complete information write to:

Arctic Lodges, Ltd.

3402 UNIVERSITY, S.E. MINNEAPOLIS 14, MINNESOTA

Phone: FE 8-1583

Exact Bond Booklet

Wausau Paper's new sample and specification booklet of Exact Bond is now available to printers and other graphic arts personnel.

The booklet contains samples of all weights and finishes of whites and pastel colors in this line of sulphite bond paper.

Exact Bond handles exceptianally well on modern high-speed plant and office reproduction equipment, the sompany reports.

A copy may be obtained from the company's Advertising Department, Brokaw, Wisconsin.

•

Barrier Cream Announced

Ayerst Laboratories, New York, have announced development of a barrier cream that prevents dermatitis in plating and degreasing operations.

Called Kerodex No. 71, the cream is designed for wet work and, when rubbed into the skin, is greaseless and stainless and will not affect the surfaces of any material handled.

The cream will not wash off with soaps or detergents, but must wear off. Additional information is obtainable from the company at 22 E. 40th St., New York.

•

2-Color Printing Booklet

Beckett Paper Co. recently released a booklet entitled "2 For 1," which is designed to show how to get the effect of two-color printing at little more than one-color cost.

The booklet contains acetate screen sheets and a color selector showing the 37 colors available in Beckett offset papers. By placing the acetate sheets over the colored swatches, various combinations of colored paper and ink can be seen.

A copy of the booklet is available from a Beckett distributor or from the company, Hamilton, O.

•

Management Program Booklet

Carnegie Institute of Technology has released a brochure outlining its Department of Graphic Arts and, in particular, its Management Program.

The school recently expanded its educational opportunities in the graphic arts, introducing two new programs, Graphic Arts Management and Graphic Arts Design. The programs are supported by the Graduate School of Industrial Administration and the College of Engineering and Science.

A brochure may be obtained from the school's Department of Graphic Arts, Schenley Park, Pittsburgh.

Paper Sample Book

Brown-Bridge Mills, Inc., has released a sample book containing swatches of the firm's line of Strip Tac Pressure Sensitive Label Papers.

Fourteen sample sheets, ranging from foil to badge stock, are contained in the book. Printing tips and split plan layouts are also included.

A copy may be obtained from the company, Dept. ST-37, Troy, O.

PRECISION AT A PRICE
nuArc JET LINE
STRIPPING TABLES
WITH EITHER HORIZONTAL OR VERTICAL MOVING STRAIGHT EDGE
AS LOW AS $395 24 x 31
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For jet fast, accurate ruling, opaquing, layout and stripping, the JET LINE Table has no equal . . . at any price. Why buy a light table when for a few more dollars you can own the all-purpose JET LINE.
All moving parts are precision machined and aligned at the factory. Straight edge assembly rides accurately and effortlessly on a heavy duty rack and gear mechanism. All calibrations are in 1/32".
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Flip-top PLATEMAKER
THE MODERN WAY TO MAKE PLATES
No partitions—No exhaust systems. One complete compact unit with vacuum frame on top and carbon arc lamp enclosed in base. 6 sizes all described in Bulletin A500.
FT-40
$795
30 x 40

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THE DEADLINE

FOR RECEIPT OF ENTRIES INTO THE 10th ANNUAL P.I.A. PRINTERS and LITHOGRAPHERS' SELF-ADVERTISING CONTEST

Win a "BENNY" $3000 in Cash prizes!

Write for rules and entry blanks!

PRINTING INDUSTRY OF AMERICA, INC.
5728 Connecticut Ave., N. W.
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Mobile Perforator Announced

American Printing Equipment & Supply Co., Long Island, N.Y., has announced two additions to its perforator line; the Rollem Mobile Automatic Perforator, Creaser & Slitter; and the Rollem Friction Feeder.

Rollem Mobile perforators are made in various models, in sizes of from 18 to 42" wide.

The perforator is a British-made machine that does perforating, creasing and slitting simultaneously or singly with equal facility on paper, covers, cardboard, corrugated or plastics, up to 1/8" thick. A mobile unit mounted on heavy casters, its angled rollers will accept sheets as they are ejected from the press either in-line or at right angles.

The Friction Feeder, designed for use in processing away from the press, feeds from the bottom of the pile, allowing constant replacing of stock on top of the pile without stopping the machine. By means of a rubber ring, the heads on the machine hold paper firmly in place, controlling the motion of the sheet throughout the entire operation. The feeder is capable of handling 20,000 sheets an hour.

•

Web Equipment Catalog

A 216-page catalogue, delineating an entire line of web-fed printing and converting equipment and containing detailed specifications of the machinery, is available from the Champlain Co., Inc.

Described in the book are unwind stands, printing units, rewinds, fabrication equipment, web processing equipment and electronic controls.

Printed in two colors on coated stock, the catalogue devotes one section to a general description of each unit, illustrated by photographs and drawings. The descriptions are cross-indexed to a supplementary appendix that furnishes detailed specifications and line drdawings.

Other sections show schematic illustrations and photographs of actual installations now in use. A copy may be obtained from the company, Harrison Ave, Roseland, N.J.

•

Photomicrography Handbook

A 29-page illustrated handbook on photomicrography has been released by The Gevaert Company of America, Inc. The booklet contains technical information describing the photomicrographic camera, proper illumination of specimens, resolving power and light sources of the photographic enlargement.

The booklet contains photographs of microscopic specimens in full color and explains the details of the special techniques of infra-red, fluorescence, and polarized lighting. Included is technical information on Gevaert's own Scientia and Gevacolor emulsions.

The booklet has two full pages of charts showing suggested contrast filters for photomicrography, and a section on relative special sensitivity.

The handbook may be obtained from the company, 321 West 54th St., New York 19.

•

Zoom Optics Macroscope

A lightweight zoom macroscope has been announced by Bausch & Lomb, Inc.

Features include an automatic prefocus gage, tripod leg construction for greater portability, and an optical system which provides continuous magnification from 10 to 30x.

Zoom optics allow operator to vary magnification over the entire range of the instrument simply by rotating the power changer ring, the company reports. The instrument maintains constant focus regardless of subsequent power changes. Field of view is 0. 420" at 10x, and 0.240" at 30x.

Technical information is available from the manufacturer at Rochester 2, N. Y. ask for Bulletin D-2018.

Natural Color Brochure

Living Color Stationery Inc., Route 303, West Nyack, N. Y., has released a brochure containing samples of its color reproduction process which reportedly places color lithography within the limits of modest budgets.

Low-cost color reproductions, the manufacturer reports, have been made possible through a newly developed triple-masking method that yields excellent fidelity to color transparencies and commercially accepatable variations. A brochure and further information are available from the firm.

•

Microfilm System

A microfilm reproduction system was recently shown for the first time in New York by the Burton Mount Corp. at the Biltmore Hotel.

Called the Micro-Mate, the system combines a microfilm reader, projector and enlarger with a new printing system, which permits untrained persons to make contact prints or enlargements up to 11 x 14″, of negatives as small as 16mm on line copy or glossy paper in less than 30 seconds without a darkroom.

Micro-Mate equipment was developed by Federal Manufacturing & Engineering Corp. of Garden City, N.Y.

•

Grandee Line Introduced

Strathmore Paper Co., West Springfield, Mass., has completed introduction of its Strathmore Grandee line, 15th in the firm's text and cover line.

Keystone of the promotional program employed by the company to introduce the new line was a design and production guide which was sent out to 18,000 printers, commercial artists, advertisers, and advertising agencies.

The mailing piece, printed on Grandee Spanish Gold, illustrates new dimensions in color printing on colored text paper. The design contains 12 different colors that were achieved by using only four colors of ink.

Film Developer Announced

P2 and V2 Film Developer for developing large sheets of Ortho film has been introduced by Nisco, Inc., a Division of Atlas Silk Screen Supply Co., Chicago. The device derives its name from its major features—portable, plastic, visual, and vertical.

Handling film sizes up to 48 x 78″, the unit consists of a nearly vertical plastic tray, illuminated from the rear. The film is clipped flat to the tray and developer is cascaded over the emulsion to produce uniform developing.

By means of a recirculation feature it is possible for one gallon of developer to be used as effectively as 10 gallons in a large flat tray, the company reports. There are sockets for up to 10 safelights behind the tray for inspection as development proceeds. Entire unit takes up only a few square feet of floor space and is mounted on large casters.

Details are available from the manufacturer, 1735 Milwaukee Ave., Chicago.

His only penny...and he got the wrong color!

Unfortunately, this young man had no control over the colored gum ball that came out of the machine.

With Wayne, color is controlled from the camera to the final proof with every modern tool and device. This ability to control color assures quality conscious clients consistent and dependable results on every job.

Every department is manned by platemaking craftsmen. Contact Wayne for immediate service from a Sales Counsellor.

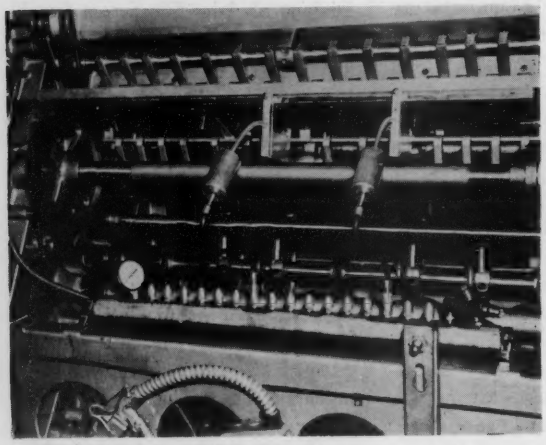
WAYNE COLORPLATE CO. OF OHIO

ADVERTISING ART • PHOTOENGRAVING • LITHO COLOR PLATES

40 EAST FIRST ST. DAYTON 1, OHIO BA 2-1173

Slitter-Perforator

Royal Zenith offset presses in 23, 25 and 30" sizes can now be equipped with a new air actuated slitter-perforator, according to the company.



Royal Zenith's slitter-perforator is suited for forms, labels, menus and checks.

The new unit slits, perforates or scores, and is suited for printers of forms, labels, menus, checks and snap-out forms. It is fitted to Royal Zenith's gear-driven stripping cylinder, and driven by a separate air compressor. Operating in conjunction with the pressure mechanism of the plate and blanket rollers, the compressor automatically actuates the slitting, perforating and scoring knives in synchronization with the printing cycle. It does not affect the operating speed of the press.

The Royal Zenith slitter-perforator can be ordered with the press or installed in presses now in operation.

Complete information on the slitter-perforator is available from the company, 180 Varick Street, New York 14, N. Y.; 619 West Washington Blvd., Chicago 6; or 1350 S. Broadway, Los Angeles 15.

Color Correction Dyes

The Brandywine Photo Chemical Co. of Avondale, Pa., has developed a product which may offer considerable savings in the color correction of transparencies that would otherwise have to be discarded due to mechanical errors, improper exposure or processing.

The product called Trichromes, consists of three bottles of specially formulated dye concentrates, yellow, cyan and magenta, capable of being mixed to all colors and shades and each with high affinity for the photographic emulsion, the company reports.

It can be used after processing to alter dominant hues caused by "off-color" light sources, over-aged film and processing, and also to blend into the movement streaks, caused by insufficient speed when "painting" supplemental lighting to indoor industrial color.

For color correcting transparencies, a bath is prepared by diluting the contents of each bottle of transparent dye with eight ounces of water. The transparency is dipped into the diluted solution in accordance with instructions on the color correction guide furnished with the dyes.

Transparent Trichromes leave no residue and have a long shelf life, according to the company. The same solution may be used repeatedly and may also be used for retouching and spotting color prints.

•

2-in-1 Film

Perfect Photo, Inc. has announced that it will introduce a camera film this October that can be processed in black-and-white, color or both on a single roll.

The manufacturer reports that the film will be priced "only slightly above ordinary black-and-white, and will be produced in sizes 620 and 127."

Additional information is available from the company at 4747 N. Broad St., Philadelphia 41.

Metallic Ink Chart

Kennedy Ink Co. is offering an Offset Metallic Ink Chart showing its line of metallic inks for the lithographic trade. Included on the chart are the following: pale gold, rich pale gold, rich gold, copper and silver.

Instructions accompaning the 8½ x 11" chart tell how to mix gold powder with varnish for enamel, coated, and cast-coated stocks. The company asserts that full coverage can be achieved with one impression, instead of two, as has been customary with many litho shops in the past.

The inks can be used with presensitized plates for runs of 3,000 to 5,000, Kennedy reports, and with deep-etch plates for longer runs. The ink fountain should be adjusted so that a more than normal amount of ink is on the rollers at the start. After 15 or 20 sheets a solid print of gold should be achieved. After a few hundred impressions, the ink can usually be cut back slightly.

For a copy of the chart and instructions for mixing and running the metallic inks, write the company at 312-314 E. Second St., Cincinnati 2, O.

•

Photographic Line Booklet

Anken Chemical & Film Corp., Newton, N. J., has completed preparation of a 24-page catalog and price list on its papers, films, emulsions, processors and chemicals.

Devoted primarily to the engineering and other industrial photographic papers and films, the booklet also describes the company's projection materials for engineering, offset printing, microfilm and related uses; its direct positive papers and films; monobath (multiple-copy photocopying) papers and processing solutions; the Anken 27, 12, and 9-inch diffusion transfer processors; and various darkroom and processing machine developers, fixers and other solutions.

The booklet also has a section entitled darkroom tips for handling engineering drawing reproductions and intermediates and a comparison chart on the more than 30 contact and projection papers and films available for engineering, graphic arts and other industrial and commercial uses.

ROCHESTER INSTITUTE OF TECHNOLOGY LIBRARY

Label Paper Developed

Imac APC Label Paper, a heat seal grade designed to meet the requirements for labeling bakery products packaged in films and other materials, has been announced by Nashua Corp.

The grade replaces both Pervenac CL and IMAC-PL grades. With properly controlled heat and pressure, the company reports that the new label paper will provide trouble-free adherence in room temperatures ranging from 45 to 115° Fahrenheit, and in relative humidity ranging from 20 to 80 percent.

The adhesive label is suited for two-phase labeling machine operation as well as labeling which requires simultaneous applications of heat and pressure. Additional information may be obtained from the manufacturer at Nashua, N.H.

•

Embossed Grade Distributed

Prentice offset enamel, Venetian finish, the first embossed coated printed paper ever offered by Kimberly-Clark Corp., is now being distributed.

Primary applications for the embossed grade include magazine inserts, sales brochures, pamphlets, school annuals and other printed materials for which a textured sheet is desired. The stipple-like finish has above average folding qualities which makes the grade suitable for self covers, the company reports.

•

Data On Continuous-Tone Films

Recommendations for making masks and separation negatives with the new Kodak continuous-tone films are contained in a revised edition of a Kodak "Q Sheet."

"Camera-Back Masking with Silver Masks" (Q-109), the second revision of the Kodak pamphlet bearing the same title, offers recommendations covering the use of Kodak Pan Masking Film (Estar Base) for masks, and Kodak Separation Negative Film, Type 2 (Estar Base), for separation negatives.

The revised pamphlet suggests new exposure and development conditions for masks and separations, and new density and density-range aim points for separations, according to the company. Tables in the pamphlet list data for exposing and processing of masks, processing of separation negatives, and fixing bath recommendations.

Q 109 is available from the Graphic Reproduction Sales Division, Eastman Kodak Co., Rochester 4, N. Y.

Cover Stock Bulletin

Champion Paper and Fibre Co., Hamilton, O., has released a booklet describing Kromekote colored cover stocks. The booklet is designed to show how Kromekote adapts to a variety of art treatments.

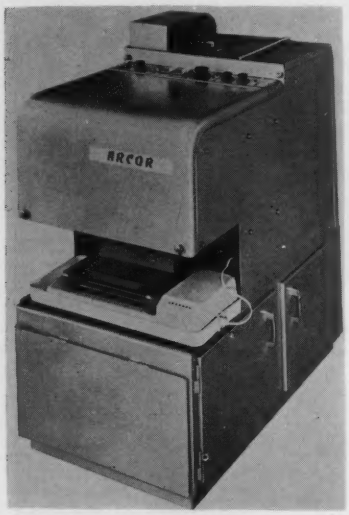
SUPERB PERFORMANCE
AT A LOW, LOW PRICE*
nuArc HI-LITE ARC LAMPS
*
H-66
$495.00
PAIR
Uniform coverage—steady burns (color and intensity)—economical operation—low initial cost . . . what more could you ask for in an arc lamp?
Hi-Lite Arc Lamps are economical to operate. For example, a pair of H-66 lamps produce 75 amps at the carbons but draw only 15 amps per pair from the power line. Patented mechanism causes carbon arc to re-strike automatically at timed intervals—eliminates bouncing or sputtering.
Also available: Model H-65, 75 amp printing lamps—price, $350.00 each; with built-in timer, $385.00.
Send for Bulletin A600 ML
nuArc COMPANY, INC.
General Office and Factory: 4110 W. Grand Ave., Chicago 51, Ill.
Sales and Service: New York • Los Angeles

nuArc flip-top PLATEMAKER
SAVES 35% FLOOR SPACE
No partitions—no exhaust systems. One complete compact unit with vacuum frame on top and carbon arc lamp enclosed in base. 6 sizes all described in Bulletin A500.
FT-32
$695
28 x 32

French Copying Devices

Two French-manufactured copying devices, Polymicro Universal Copier and Arcor Automatic Copier, were recently introduced on the American market by U.S. distributor, the Burton Mount Corp., Long Island, N.Y.

Designed for both home and office use, the machines produce quality prints that are sharp enough for half tone reproductions. The Polymicro produces glossy photos from negatives



Arcor photo copying device, reportedly the fastest all-purpose copying machine in existence, produces high fidelity reproductions on glossy paper at a cost of less than five cents a print.

in 10 seconds at a paper cost of less than 10 cents a print. The Arcor, designed for quantity work, is capable of making 500 copies in 10 seconds at a paper cost of less than five cents a print.

The paper used by the devices is a silver nitrate coated, native French stock which enables instantaneous development and stabilization. The paper is .0059 grams, 20 pound stock.

•

Reproduction Process

Coloramic Process Inc. has announced development of a new technique for producing color reproductions that show finish and texture as well as true color shade.

Reproductions are accomplished by an automatic machine that applies films of matched colors in liquid form directly to the paper. More than 100 colors can be applied by one impression through the machine and on both sides of the paper, the company reports. In addition, color may be applied on the paper in any design, shape or size.

The technique is particulary suited for the display of color and texture of paints, floor coverings, plastics, fabrics and metallics, according to Coloramic.

A brochure containing more detailed information of the process is available form the manufacturer at 12697 Elmwood Ave., Cleveland 11.

•

W. Va. Alphabet Book

Evolution of the alphabet, depicted in a colorful pagentry of ancient symbols and modern design, is the subject of the latest issue of *Westvaco Inspirations,* a graphic arts quarterly published by West Virginia Pulp and Paper Co.

The new issue came into being in response to wide interest in three previous issues, now out of print, which carried the alphabet series in part. To satisfy this demand, the A to Z series was put together in 32 pages, the largest issue of *Westvaco Inspirations* yet published.

A limited number of copies of the booklet are available from the company at 230 Park Ave., New York 17.

•

Envelope Price List

Hi-craft Envelope Co. has released a price list covering its complete line of printed and unprinted envelopes. The booklet has a plastic covering to maintain neatness in cases of constant use, the company reports.

Included in the list is a chart of freight charges from which delivery costs can be obtained. There is also general information about the quality of the firm's envelopes, and the weights and sizes available.

Additional information may be obtained from the company at 199 Lafayette St., New York 12.

•

Foster Catalog Released

Copies of a 32-page illustrated catalog of composing room and photomechanical products are available from Foster Mfg.Co., 140 N. 13th St., Phila.

Direct-Image Plate Book

The second Polychrome series of Technical Bulletins, entitled "Offset Printing with Direct Image Plates," has been published.

The bulletin provides detailed data on preparing direct image plates by typewriter. Pre-printing, and imaging with pen, pencil, special drawing ink, on transparent carbon are also discussed.

In addition, information about plate processing, suitable fountain solutions and inks, and running direct image plates on the press is included. The bulletin concludes with a brief discussion of the ease with which direct image plates may be stored and re-run.

Free copies of Technical Bulletin No. 2 are available from local Polychrome offices, or from the company at Yonkers 2, N. Y.

•

Alcohol Data Published

An 80-page booklet, describing the properties and uses of industrial alcohols, has been published by Union Carbide Chemicals Co.

The booklet contains comprehensive data on 21 alcohols, from methanol to tridecanol. Included is information on physical properties; constant-boiling mixtures; specification limits; test methods; storage, handling, and shipping; toxicological properties; and selected literature references.

Special sections of the booklet describe ethanol in proprietary solvents, alcohols for chemical specialties, performances of alcohols in coatings, and performances of plasticizers. The chemical specialties section contains typical formulations for household cleaners, cosmetics, paint cleaners, and dishwashing detergents. The section of coatings includes resin solubilities, relative evaporation rates and dilution ratios, and similar coatings formulation data.

The alcohols described in this booklet are used in many industrial and consumer products, including antifreeze formulations, protective coatings, dyes, inks, plastics, drugs, flavorings, perfumes, cleaners, polishes, photographic supplies, solvents, couplers, and defoaming agents.

Master Gearmotor Redesigned

Master Electric Division of Reliance Electric and Engineering Co. has introduced a new line of fractional right angle gearmotors in the 1/8 through 1/3 horsepower class.

One of the features of the new line is weight reduction. The 1/4 hp. gearmotor weighs only 26 lbs, the company reports, which is 20 lbs. lighter than the former unit.

The gearmotors have a reversible output shaft that can be transferred to the right or left-hand side of the gear unit. The interchangeable bearing housing plates on either side of the gear head are also removeable. The shaft and reduction gear can then be taken out and inserted on the other side of the unit,the company reports.

For further information and dimensions contact the company at 24701 Euclid Ave., Cleveland 17, Ohio.

•

Printing Paper Booklet

Wausau Paper Mills Co. has published a new sample and specification booklet showing its complete line of Index Bristol printing papers.

The booklet features samples of a new white, and a buff paper, as well as five other colored papers that are available in standard sheet sizes and weights.

A copy of the booklet may be obtained from a Wausau merchant or from the Advertising Dept., Brokaw, Wis.

•

Colortran Catalog Released

Natural Lighting Corp. has announced the availability of a catalog sheet providing detailed information on the specifications of Colortran Lighting Systems for copyboards from 28 to 70" high.

The sheet may be obtained from the company at 630 S. Flower St., Burbank, Calif.

•

Lamp Brochure Released

A brochure on arc printing and camera lamps that have the capacity to meet present-day requirements has been prepared by The Strong Electric Corp.

The brochure includes information on, among other items, Strong's 95-amp and 140-amp printing lamps; the firm's photo-composing and overhead lamp; and the Challenger camera lamp.

A copy may be obtained from the firm at 17 City Park Ave., Toledo, O.

•

Litho Colors Announced

Switzer Brothers, Inc. recently announced that three new colors, previously available only for silk screen and gravure products, have been added to the Day-Glo line of letterpress and litho inks.

The colors are fire orange, saturn yellow and neon red. Samples are included in a color guide that is available from the company at 4732 St. Clair Ave., Cleveland 3.

OAI Releases Annual

The new Outdoor Annual, featuring top winners and honorable mention poster and paint designs selected at the 29th Annual Competition and Exhibition of Outdoor Advertising Art, is now being distributed by Outdoor Advertising Inc.

In addition to pictures and descriptions of judging procedures, the annual includes articles by Felix W. Coste, president, OAI; Lee King, ADCC president and senior vice president of Edward H. Weiss and Co., Chicago; F. William Free, foreman of the jury and vice president, of McCann-Marschalk Co., New York; and Charles E. Ax, chairman of the exhibition committee and creative director, of N. W. Ayer & Son, Inc., Chicago.

What Typeface?

Headings in Paper
Tempo Black

Big Italic Headings
Tempo Black Italic

Printing Catalogs Issued
Tempo Alternate Bold

Advertising Designers
Tempo Alternate Heavy

Most Popular
Tempo Black Extended

Striking Display Lines
Record Gothic Medium-Extended

Ideal for all Marking Devices
Record Gothic Condensed

Purchasing Equipment
Record Gothic Bold

Striking New Typeface
Record Gothic Bold Italic

Graceful Color Lines
Admiral Script

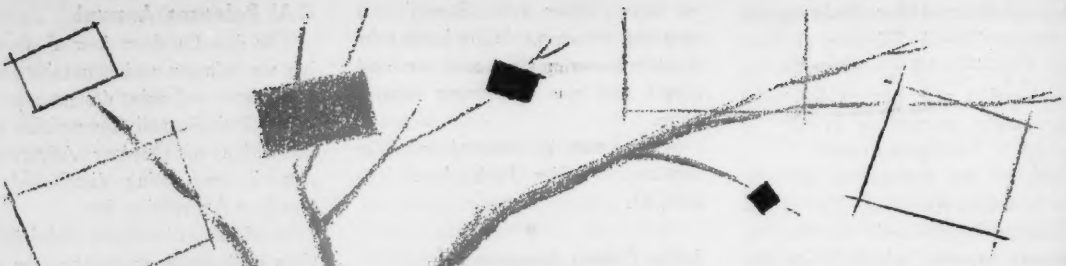
Bank Notes for Exchange
Formal Script

Demands Beautiful Script
Coronet Bold

Whether it's a bold, extended letter that delivers a punch . . . the graceful italics and scripts for a gentler touch . . . or the traditional and modern typefaces in beautiful yet conservative design . . . there is a Ludlow typeface that will meet practically every requirement of the alert layout-man, printer or advertiser. Ask for details.

Ludlow Typograph Co. 2032 Clybourn Ave., Chicago 14

Heading and signature set in Ludlow Hauser Script



Offset printing plates don't grow on trees!

Offset plates are made; we make them. Our thirty year's experience in color and in black and white work, assures you of printing plates of the highest quality.

Skilled Craftsmen, excelling in preparation of advertising art, commercial photography, offset plates (all types) and rotogravure plates, combine to afford you a complete service.

GRAPHIC ARTS CORPORATION of Ohio
110 OTTAWA ST. • TOLEDO 4, OHIO

New York Office 342 Madison Ave., Room 712
New York 17, New York

Chicago Office 201 North Wells St., Room 722
Chicago 6, Illinois

2nd Big Printing . . . have your copy?

Yes, **The Magic of Making Halftones** has proved such a practical and useful handbook that word has gotten around that it is a really valuable book to have around the shop. Consequently, the entire first printing of 3,000 copies was sold out several months ago. But if you delayed too long in getting a copy, you needn't worry. You can get this valuable, profusely illustrated collection of tips and techniques once again . . . for a second printing of 2,000 copies is just off press! Many lithographers have written to tell us how much they have profited from this authoritative work. It covers the complete subject of making halftones—tools, procedures, equipment, general rules and shop standards. Get your copy today by using the handy coupon below. The price is just $4.25 a copy, shipped postpaid anywhere in the world. And you take no chances: Your money will be promptly refunded if you are not entirely satisfied after looking over **'Halftones'** for 10 days.

• Scores of photos showing 'right' and 'wrong' • Working tools: where to buy them and how to make them • Setting camera • Focusing • Rescreening halftones • Shooting colored copy • Stripping • Platemaking • Special tricks

Litho Books
Box 31, Caldwell, N. J.

YES, send me a copy of 'HALFTONES.' My check for $4.25 is enclosed.

NAME .....

STREET .....

CITY ..... **ZONE** ..... **STATE** .....

STAR TARGET

(*Continued from Page* 29)

screened along with the copy. *Figure 8* shows a magnified view of the target in a 150 line halftone image.

To determine the resolution, the average diameter of the center area

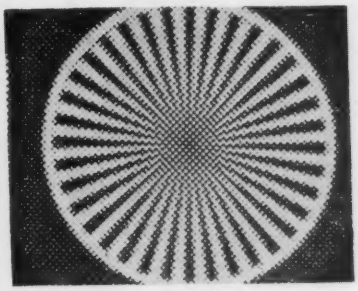


Figure 8

of the just resolved wedges (as the wedges approach the center they tend to blend into a field of dots) is measured. This average diameter is then used to compute the resolution, using the formula in the pressroom section. Two drawbacks to this use of the target are:

1. The need to use a micrometer microscope and

2. The difficulty in determining the point where the wedges just blend together. (A target that is easier to use for measuring halftone resolution is the LTF Circular Target. This target is still in the experimental stage and is not ready for plant use at this time.)

Other suggested uses for the Star Target are for checking resolution of unsharp masks and contact exposures.

Availability of the Targets

The specifications for a satisfactory Star Target are quite rigid. The lines must be of the proper high density; they must extend to the center spot of the target with no spreading together; and they must be sharp and clean at the center and not just a fog density. The centers should be completely free of dust spots, although a few spots at the outer edges will not interfere with the target's use.

Meeting these specifications is a difficult job. It requires meticulous, time-consuming care in processing and technique. It is far more difficult to make good targets than it is to make good contact halftones or line negatives.

We have now finally located a qualified producer of the targets. The company has worked closely with the laboratory to make sure that the production runs will meet the high quality standards that are required.

The targets are made 12-up on a single sheet of dimensionally stable film. The cost is $5 a sheet for L.T.F. members. For non-members, the price is $10 a sheet, plus 50 cents shipping and handling charge. Orders should be sent to LTF, 131 East 39th St., New York 16, N. Y., and should indicate whether negatives or positives are desired. The production of these targets is controlled so that not more than two of the 12 will be defective. In other words, we expect that in each sheet of 12 targets, you will find at least ten good ones. Any closer quality control than this would greatly increase the cost.

Summary

The LTF Star Target is a simple quality control device for the pressroom for quick detection of ink spread, slur, and doubling on press sheets. The design of the target is such that it magnifies an ink spread about 23 times, thus making it easily visible to the pressman.

The target is very simple to use and has already been tested in a number of plants. It requires no special equipment for routine use. Besides its main use in the pressroom, it can also be used in platemaking, to check the contact of the film and plate, and to check resolution in camera work. While routine use requires only a hand magnifier, precise measurements of ink spread and resolution can be made using a micrometer microscope.■

TECHNICAL BRIEFS

(*Continued from Page* 68)

listens to playback while reading proof. Advantages in speed and accuracy are claimed. 1 Illustration.

Planographic Printing Processes
DEEP-ETCHING AND COPPERIZ-

Bychrome

SCREEN TINTS

Incomparable quality! Available in 6 values, 133 and 150 line rulings, 20 x 24 in. reg. base film. 1 per tube. $95.00 per doz. $52.50 per ½ doz. Singly, $10.00 each.

Byrum

COMMERCIAL TINTS

Truly fine quality. Available in 12 values, 133 and 150 line rulings, 20 x 24 in. reg. base film. 1 per tube. $5.85 each.

Bychrome

2-COLOR GUIDE

118 2-color sheets in 3-ring binder with technical data. 195 precisely predictable colors per sheet $22.50.

Bychrome

PUNCH & REPEAT

Complete system, with instructions. P&R Machine, Manual, 1 doz. brass pins. $99.50.

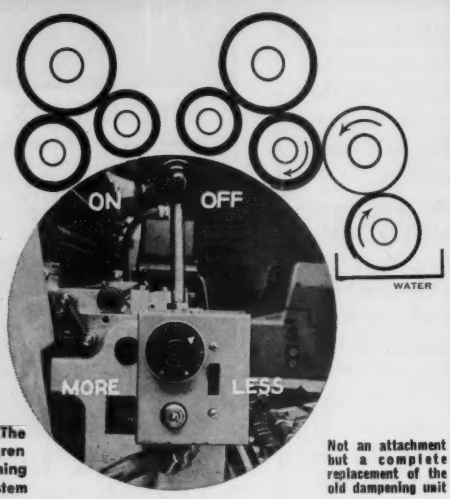
Bychrome

Box 1077, Columbus 16, Ohio, U.S.A.

Available through leading Graphic Arts Suppliers around the world.

All prices FOB Columbus, Ohio, subject to change without notice.

PRECISION PLATE DAMPENING



The Dahlgren Dampening System

Not an attachment but a complete replacement of the old dampening unit

Take the Guesswork out of Presswork

The Dahlgren Precision, Automatic Dampening System provides continuous-duty, trouble-free printing.

1. **Precision control of moisture throughout job.**
2. **Eliminates dampener changing and washing.**
3. **Cuts waste sheets to absolute minimum.**
4. **Eliminates the major source of hickies.**
5. **Reduces make-ready time.**
6. **Runs 50% less water.**
7. **Increase plate life.**
8. **Permits use of letterpress papers.**
9. **Smoother lay — more ink mileage — reduces offset.**
10. **Produces crisp, brighter quality.**

This electronically controlled dampening system is not an attachment, but a complete replacement of the old ductor type system.

This "New Dimension" to lithography — The Dahlgren Dampening System, developed and perfected by Harold P. Dahlgren, is being used successfully on hundreds of presses throughout the country.

For colorful brochure, price quotation and information, address all correspondence to:

Harold P. Dahlgren, President

DAHLGREN MANUFACTURING CO., Inc.

3006 Indiana Street **Dallas 26, Texas**

Another ton of printing pleasure...

HAMILTON BOND

This skid of Hamilton Bond promises printing satisfaction. And the letterheads and business forms made from it promise user satisfaction.

Hamilton Bond is a remarkably white, opaque No. 1 sulphite, accurately trimmed at the mill. The genuine watermark, the excellent ink receptivity, the moisture-proof wrapping—these features help set Hamilton Bond apart as a fine paper for the printer.

And the clean surface of Hamilton Bond makes it especially welcome in your customer's office. There's a wide choice of 11 attractive colors and 3 finishes to satisfy almost any need in the fast-moving modern business office.

YOUR WORK IS AS GOOD AS YOUR BOND, and Hamilton Bond brings out the best in your work. This fact is emphasized in the continuing Hamilton Bond advertising campaign in *Business Week* and *U.S. News & World Report.*

HAMILTON PAPERS

Hamilton Paper Company, Miquon, Pa.
Mills at Miquon, Pa., and Plainwell, Mich.
Offices in New York, Chicago, Los Angeles

ING DEEP-ETCH ALUMINUM PLATES. 655.325 Charles W. Latham. *The Inland and American Printer and Lithographer* 146, No. 2, November 1960, pp. 60, 61, 62, 63 (4 pages). A discussion of a number of aspects of copperized deep-etch platemaking. Some LTF recommended practices, such as Nicohol, are mentioned. 2 Illustrations.

LITHO PLATES. Albert R. Materazzi. 655.324 (From an address presented at the 41st Annual Craftsman Convention, Atlanta.) *Modern Lithography* 28, No. 11, November 1960, pp. 40-42, 139 (4 pages). The newest developments have been in the field of "Wipe-On" plates. Their advantages are given and sources listed. Surface plates have been improved (LTF mentioned) and the improvements in coatings, metals and processing are noted. Similarly the other types of plates such as deep-etch and bimetals are discussed.

SPONGES CAUSE SCUM. 655.326 Eugene C. Bulinski. *The Graphic Arts Monthly* 32, No. 10, October 1960, pp. 126, 128, 130 (3 pages). In answer to a question, author discusses case where apparently use of new natural sponges in platemaking led to subsequent scumming of plates. Uncleaned new sponges give solution with pH 12. Cellulose sponges are preferred. Natural sponges should be soaked in mild acid before use.

ELECTROPHOTOGRAPHIC COPIER DEVELOPED AFTER FOUR YEARS OF RESEARCH. 655.325 : 778.1 Anon. *Reproductions Review* 10, No. 11, November 1960, p. 40 (1 page). Brief illustrated description of APECO electrostatic photocopier based on RCA Electrofax system. Copies produced can be used as lithographic masters for producing up to 200 copies. 2 Illustrations.

THE PRODUCTION OF LITHOGRAPHIC PLATES BY THE DEEP-ETCH PROCESS. 655.325 L. E. Lawson and S. D. Winn. *Printing Technology*, Vol. IV, No. 2, December 1960, pages 59-77, 17 pages. The results obtained by using the deep-etch process of offset lithography are affected by many different variables such as the formulation of the solutions, the atmospheric conditions and the types of positives used. Conclusions reached, as a result of work reported earlier, on the importance of the different variables are given. The formulations of conventional type deep-etch coatings are investigated in some detail, particular attention being paid to the ratio of dichromate to gum, the effect of the pH of the coating solutions, and the Baumé of the solutions. The object of the work was to provide exact information as to the changes in the areas of the half tone dots. 4 Illustrations, 7 tables, 4 references, discussion.

Photography, Tone & Color Correction

*THE UNII ALL-PURPOSE DENSITOMETER FOR THE PRINTING INDUSTRY. 771.534 E. S. Karpenko. *Poligraf. Proizvodstvo*, June 1959, pages 9-11; *Monthly Abstract Bulletin*, Vol. 47, No. 1, January 1961, page 52. A description is given of a transmission-reflection densitometer based on the comparison of the working light beam with a standard beam by a null-point method. It is intended for general use in the Soviet printing industry.

THE PHOTO MODIFICATION CAMERA. 771.317 Alvin Polland. *Printing and Graphic Arts*, No. 13, November 1960, pp. 16-18,20,29 (5 pages). A comprehensive explanation, with practical hints, of what can be done with this type of camera, and how this affects both art work and printing.

MODERN TRENDS IN GRAPHIC ARTS CAMERAS. 771.317 Frank H. Smith. *The Lithographer and Offset Printer* 56, No. 11, November 1960, pp. 32-34 (3 pages). A recent trend is to break away from the highly complicated universal application darkroom cameras toward simpler cameras, a trend coming from the cameras made for small offset operations. Gallery and darkroom cameras are compared. Vertical cameras and automatic focusing devices are described. 2 Illustrations.

A METHOD OF STANDARDIZING COLOR SEPARATIONS.. 655.302 Mel Mark. *National Lithographer* 67, No. 11, November 1960, pp. 47, 118 (2 pages). Description of the use of the enlarger in color separations. Many operational shortcuts are claimed.

MAINTENANCE PAYS OFF HANDSOMELY. 655.302 Herbert P. Paschel. *Photo Methods For Industry* — Section Two — November 1960, pp. 12-13 (2 pages). Suggestions are given on the care and maintenance of graphic arts plant camera room equipment. Specific points on lens cleaning and exposure integrator checking are given. The use of a foot-candle meter for checking illumination is urged.

TYPES AND CHARACTERISTICS OF MODERN PROCESS CAMERAS. 771.317 F. G. Wallis. *The British Printer* 73, No. 11, November 1960, pp. 124-127 (4 pages). Size, rigidity and parrallelism are specialized requirements of the process camera, also allowance must be made for screening. Cameras are divided into horizontal and vertical groups. Some new developments include roll film cameras, the use of enlargers in color work and the Multichrom camera for masking. Five cameras are illustrated.■

PHOTO CLINIC

(*Continued from Page 57*)

camera reflections are also sources of trouble. You'll have to track down the causes of your problems by some detailed tests. The literature listed below may prove helpful to you in understanding the complexity of problems encountered in graphic arts photography.

Suggested Reading

Correct Illumination For Photographic Copy, LTF Research Progress, No. 14, July-August 1949. Lens Flare and Camera Reflections, Herbert P. Paschel *Lithographers Journal*, August 1950. A Study of Arc Lamp Performance, R. N. Norman & W. L. Rhodes TAGA Reports, 1957. Variables in Photography, Herbert P. Paschel *Modern Lithography*, January and February, 1959. Basic Halftone Technique and the Magenta Screen, DuPont Graphic Arts Handbook. Halftone Photography for Offset Lithography, Erwin Jaffe, Publication No. 508, Lithographic Technical Foundation, Inc.■

Ask
Carlson
MASK
TRIAL OFFER

● On your really fine jobs—color process—close register—use Carlson mask. Thin vinyl for better contact. No pin holes. Ten 16″ x 20″ sheets ($1.40 value) sent free with purchase of one Carlson Register Pin.

Carlson Register Pins

Stainless steel. Pin polished to exactly .250″. Smooth thin base. Will not break. Ample thumb space. Finest obtainable.

CHESLEY F. CARLSON COMPANY
2242 Edgewood Ave., Minneapolis 26, Minn.

Gentlemen: Enclosed is $1.35 for one Carlson Register Pin. I understand you will send free of charge ten 16″x20″ sheets of Carlson Vinyl mask.

NAME_____

ADDRESS_____

CITY_____

STATE_____

SUBURBIA

(*Continued from Page 20*)

ceilings of all manufacturing areas have been sprayed with aluminum paint for reflection of light.

Ceilings of the offices and art department are acoustical tiles on aluminum stripping. Under the press section is a concrete slab three feet thick and reinforced with ¾" steel rods to form a solid foundation and eliminate vibration.

The art department is an L-shaped room containing a Lacey Lucey camera. A work table and storage cabinet form a room divider.

Camera and Stripping

A door at the north leads into the camera room and stripping department. Stripping is handled on four light tables. There is an etching sink next to the artist's light boxes for processing of color work. All films are filed in metal drawers in this room so they are readily available.

The 31" Robertson color camera adjoins the dark room containing temperature controlled sinks. Next to this is the contact room, also containing temperature controlled sinks and vacuum printing frames.

A fully equipped plate department adjoins the stripping room.

A room will be built next to the plate room to house a 52 x 76" photocomposing machine which is on order.

The pressroom contains a new Harris 43 x 60" five-color press. Next to the five-color is a new 43 x 60" two-color. Space is open nearby for a 25 x 38" four-color press which is also on order. Then there are a 43 x 60" and a 36 x 48" single color presses, and a bronzing machine.

The color checking room has a non-glare thermo pane window. Ceiling lights will provide 200 foot candles of glare-free illumination for checking color work. Color checking tables in the main press room are lighted by MacBeth units. All illumination in the rest of the plant is fluorescent, with color-corrected tubes.

There are only three posts in the entire manufacturing area, giving uncluttered floor space throughout

In the bindery are a two Seybold cutters, a PMC automatic die cutter and an eyeletting machine.

Along one side of the manufacturing area is a balcony where press sheets from each job are filed for future reference in large mailing tubes.

Walnut Paneled Lobby

The lobby is paneled in walnut with a slate floor. It has a cathedral beamed ceiling of a the same color as the paneling. These beams contain indirect lighting.

The conference room contains a bit of Philipp history. One wall contains old litho stones which were used by Philipp in the days of the old stone presses and hand transfer.

Officers of the firm, in addition to president Glantz, are Helen Glantz, executive vice president; John Buening, vice president and production manager; Hilmar Boesel, vice president and manager of the Label Division; T. K. Boylan, vice president, Commercial Division; Everett Edelman, vice president, Creative Director; Francis Leygraf, plant superintendent; Robert Hendler, platemaking foreman, and Henry Vanderlinde, bindery foreman.■

OFFSET FOR NEWSPAPERS

(*Continued from Page 26*)

casting machines for text matter. One uses a Ludlow for heads, another uses hand-set type for heads. The other two use cold-type composition machines for heads.

The approximate total cost of equipment ranges from $8,000 to $250,000 for the largest daily. A Texas publisher, who prints three dailies and two weeklies, has $100,000 invested in equipment. The Georgia tri-weekly, having worn out its letterpress equipment, converted to offset at a cost of less than $70,000. The web-fed weekly has $450,000 tied up in equipment. My survey indicated that the average equipment investment, for the sheet-fed weeklies, is $15,000.

The number of mechanical employes ranges from one pressman, employed one day a week, to 40 employes who produce three dailies and two weeklies. The largest mechanical force employed by a weekly is 14. This publisher does a large volume of color and other commercial work. Several publishers said they make use of part-time help. One publisher em-

St. Louis Plate Graining Co. Inc.

GRAINING AND REGRAINING ZINC AND ALUMINUM PLATES

PROSPECT 6-7122 • 3333 LASALLE STREET • ST. LOUIS 4, MO.

ALL SIZES NEW PLATES
in stock for prompt delivery

ploys "two men (one pressman, one helper), two women for news make-up and accounting plus part-time help" to print two weeklies.

The tri-weekly publisher said "We employ one skilled pressman and one skilled cameraman. Other personnel are local girls who might otherwise be employed in a variety store or as receptionists in a doctor's office and four young men who are in training for camera, plate and press work.

"Except for the fact that we print seven weekly newspapers, and seven monthly shopping center circulars . . . we would need only one pressman and one cameraman."

One contract printer, who prints 20 publications and 50 school papers, has eight mechanical employes.

Approximately 27 percent of the offset newspapers use color, either spot or process. Three dailies also print four-color process, if necessary. Two weeklies, and one monthly now print process color. Two other weeklies "are going into process color shortly." Four weeklies state that they rarely print color because "there is little demand for it." One publisher occasionally prints three-color front pages for such days as Christmas, etc. Another publisher printed the colors for his Christmas edition during a slack summer period. A California publisher prints his front page nameplate in color.

Handling Advertisements

Seventeen publishers stated that they paste-up their ads. Two use the hot-metal method for preparing ads.

A Maryland publisher said that, due to the cold type process, "The use of illustrations in both advertisements and news stories has been greatly expanded since the reproduction costs are so much less than with the engraving process. Further, many manufacturers provide dealers with proofs which we merely paste down with the signature and photograph, eliminating any typesetting on our part. Use of pick up ads, which ran before, either in our publication or another medium, also provides a substantial savings in production cost."

One daily clips needed illustrations from proof books of mat services. Should this daily receive a mat, it is sent to a local printer to be cast and a proof is pulled for paste-up.

A Wisconsin publisher wrote that "All of our national advertising and most of our local advertising accounts now supply us with proofs rather than mats. We simply paste them up on layout sheets and paste in the signatures. Our costing, routing, etc., have been all but eliminated. It takes one person about 10 minutes to paste-up a page if all advertisements and copy are ready to go."

A Massachusetts publisher said that "we almost never cast mats for illustrations since we can get all we want from magazines, Boston dailies, and other weeklies."

Three publishers prescreen their negatives, by placing a contact screen over the photographic paper in the enlarger. The negative from the news camera is exposed to the paper through this screen. The result is a halftone positive which is pasted directly on the page pasteup. This permits shooting the whole page as line copy. The coarsest screen used is a 65-line screen; the finest, a 133-line screen.

Only the dailies and one contract printer coat their own plates. The contract printer is the only one to use regrained plates. The others use presensitized plates. A weekly publisher said that he found presensitized plates more efficient, while an Arizona shopper publisher said that "We have used presensitized plates exclusively for about a year and a half. Previously, we coated our own but found control too difficult during hot summer months (with temperatures as high as 120 degrees)."

Seventeen publishers do not use temperature controls. Five of these stated that temperature controls would be desirable. The method of temperature control varies from closing the door when it gets cold to completely air-conditioned plants. Four use temperature control in their darkroom. One publisher uses temperature control in the press room.

The circulation of offset newspapers ranges from 253 to 20,000 (for the largest daily). A large number of these papers have stiff competition. One paper has three competitors.

Papers can be published for small towns, now without a local paper, by utilizing a central printing plant. Many publishers are now doing this.

I feel that there is a need for an organization to collect, verify and disseminate data on offset newspapers. Some newspapers listed as offset by one source are listed as letterpress by another source. These lists are compiled by organizations which are concerned with the overall newspaper field.

The offset newspaper field has many advocates, but it has no organization through which they may speak. An offset newspaper organization could collect technical data and provide a center where publishers could pool and exchange experiences and information. Such a center could aid the individual publisher to solve problems that confront him. And an offset newspaper organization would insure an orderly and healthy growth of the offset newspaper field.■

Located in the
exclusive hotel area of
NEW YORK
AIR CONDITIONING
TELEVISION
PRIVATE BATH
IN EACH ROOM
Housekeeping
Apartments, too
HOTEL
PARK CHAMBERS
Corner 58th St. & Avenue of the Americas
NEW YORK CITY 19
In its location, service, atmosphere and reasonable rates, it's the ideal hotel-home for transient and permanent guests. Single $9 to $12. Double $12 to $16. 2-room suites from $18. Lower rates by the week or month.
Write for brochure and map of New York's most fascinating places to see and things to do.
James A. Flood, Manager

for
PLATE-MAKING
PHOTO-PRINTING
PHOTO-COMPOSING

LORRAINE ACTINA **CARBONS PAY for THEMSELVES . .**

LETTERPRESS, LITHOGRAPHERS, GRAVURE and SILK SCREEN producers in growing numbers experience the extra advantages of these Carbons. They get brighter, steadier light with no bounce or sputter and Better Results!

Franchise Dealerships Open CARBONS, Inc., BOONTON, N. J.

in
TIME & LABOR Saving!
•
Improved QUALITY

EVERY WELL INFORMED LITHOGRAPHER
READS **MODERN LITHOGRAPHY** EVERY MONTH
Timely Articles Valuable information

You need the best!

The best plates produce the best printing. Expert offset plate graining saves you money in the long run by permitting quality work and smooth press performance. The skill and experience of ALJEN SERVICE assures the best. Careful and competent handling of your plate problems. Zinc or aluminum plates, any size.

ALJEN ASSOCIATES
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CAN HELP YOU

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By Roger Stephens, 1939, 11 x 15", 205 pages. Carries product samples. Two copies in excellent condition available for best offer.

ACHIEVEMENT PHOTO ENGRAVING
By Louis Flader, 1927, 9 x 12", 488 pages. One copy in excellent condition available for best offer.

PRODUCTION YEAR BOOK
By Leo Joachim, 1950, 8½ x 11", 728 pages. One copy in excellent condition available for best offer.

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Address all classified replies to Box Number, c/o Modern Lithography, P. O. Box 31, Caldwell, N. J.

Rates for classified advertisements are twenty cents per word; minimum charge $3.00. Rate for individuals seeking employment is five cents per word, minimum charge $1.00.

Advertisements of new machinery, products and services accepted at a rate of $10.00 per column inch, minimum space one inch.

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Without Stops for Unnecessary Washups
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GRAPHIC ARTS TECHNICIAN interested in position with manufacturer or supplier as technical representative, or in product development and field testing. Background includes lengthy practical experience in printing production, research, plant modernization and product development. Address Box 813, c/o MODERN LITHOGRAPHY.

WANTED: a progressive lithographer who is looking for a technical specialist to assume responsibility for plant improvement in methods, standards and control, with emphasis on color. Box 814, c/o MODERN LITHOGRAPHY.

A-1 DOT ETCHER, ability to teach masking tech. to reproduce up to 75-80% of facsimile, little etch. Samples and references. Address Box 815, c/o MODERN LITHOGRAPHY.

A-1 EXPERIENCED COLOR CAMERAMAN. Possessor of trade skills and understanding of fundamentals. Enjoys challenge of quality production. Premium wage. Address Box 816, c/o MODERN LITHOGRAPHY.

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A-1 OFFSET PRESSMAN. Sixteen years experience in lithographing, nine years running four and five color presses, Miehle and Harris, running high quality commercial work, also card board experience. Locations preferred: South, Midwest or West. Address Box 817, c/o MODERN LITHOGRAPHY.

CAPABLE CAMERAMAN, stripper, platemaker, experienced foreman desires to relocate with small firm. Southern Ohio vicinity preferred, but will consider other locations. Address Box 818, c/o MODERN LITHOGRAPHY.

OFFSET SUPERINTENDENT or general manager, 28 years graphic arts, practical experience in all departments, assume responsibility for production, color and quality control. Will move anywhere in U. S. A. Premium wages. Address Box 819, c/o MODERN LITHOGRAPHY.

(*Continued on Page* 107)

LITHO PLANT FOR SALE

Going plant — New England Area. Presses up to 36 x 49 two color late model. Art Dept., Robertson Camera, Plate Depts. Photo Composing Machine. Some Bindery including Seybold 60 Auto Spacer. All in operation. Present owners will furnish some business. A nice plant priced right for quick sale.

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P. O. Box 31 **CALDWELL, N. J.**

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YOUNG MAN — VETERAN — COLLEGE — GRAPHIC ARTS BACKGROUND, color quality control experience. Interested in printing production future with firm located in NEW JERSEY. Address Box 821, c/o MODERN LITHOGRAPHY.

Obituaries

Herbert S. Hirsch

Herbert Sachs Hirsch, president of David Weil's Sons Lithographic Co., Brooklyn, N. Y., died last month at his home in New York City at the age of 66.

•

Arthur E. Weidner

Arthur E. Weidner, Jr., district sales manager in Philadelphia for Alfred Allen Watts Co., business form printers, died June 17 in Lankenau Hospital. He was 38.

•

William Teller

William R. Teller, Jr., 61, died June 27 in Meadowbrook Hospital, Long Island, N. Y. Mr. Teller had been vice president of Teller Sons & Dorner, New York music printers and lithographers.

•

W. Arthur Cole

W. Arthur Cole, 70, former managing director of the Photo Engravers Board of Trade of New York, died July 13 at St. Andrews Hospital, Boothbay Harbor, Me.

Mr. Cole was formerly associated with the Lanston Montype Co. He was also a former president of the American Institute of Graphic Arts In New York.

Brevities

MILLER PRINTING MACHINERY Co., Pittsburgh, Pa., has announced the appointment of Robert F. Gibson as sales representative in the Ohio, Kentucky and Indiana area.

LOCAL BUYERS GUIDE

Advertising rates in the Local Buyer's Guide are: $7.50 per column inch. Please mail copy and check or money order to Modern Lithography, P. O. Box 31, Caldwell, N. J.

New York

OFFSET PRINTING TO THE TRADE
Single Color Presses up to sheet size 42" x 58".
Perfector Press up to sheet size 41" x 54".
Complete Plant Facilities
Call JOE LOCASCIO GRamercy 7-6100
N. Y. LITHOGRAPHING CORPORATION
52 East 19th Street New York 3, N. Y.

ROBERT S. ELLIOTT, district sales manager of the New England area for S. D. Warren Co. since 1931, retired in June. Mr. Elliott was long a director of the Advertising Club of Boston and also director of the Boston Club of Printing House Craftsman.

•

BERT STERN has been appointed assistant to the general manager of Hempstead Press, Hempstead, N. Y. He was formerly associated with Pictorial Offset, New York City.

•

MRS. ANN RICHTER LEWIS, of Zabel Brothers, Philadelphia, has been reelected first vice president of the Philadelphia Club of Advertising Women.

•

ARTHUR L. POLLINGER has been named representative of the Gevaert Co. of America, Inc., in the Brooklyn-Long Island area. He succeeds E. Pohl, who recently retired.

•

FELIX W. COSTE, president of Outdoor Advertising Inc., will become vice chairman of the board on Sept. 1.

•

AMERICAN TYPE FOUNDERS, Elizabeth, N. J., has announced the appointment of Robert H. Hanson as sales representative for the firm's General Printing Equipment Div. Mr. Hanson will be employed at the company's Kansas City office.

COLUMBIA RIBBON & CARBON MFG. Co., Glen Cove, N. Y., has signed an agreement with Hoffmann and Englemann of Neuestadt, Germany, under which the German firm will manufacture Columbia's Colitho line of offset plates for European markets.

•

CASE INSTITUTE OF TECHNOLOGY Cleveland, O., conferred the degree of Doctor of Engineering upon George S. Dively, chairman and president of Harris-Intertype Corp., at commencement exercises in June.

•

ROBERT WEBSTER, recent graduate of the School of Visual Arts, has been assigned by Newton Falls Paper Mills, Inc., to design advertisements and direct mail pieces, which will be used to promote the firm's line of printing papers.

Save $1.50 by entering a GROUP subscription to MODERN LITHOGRAPHY at $2.50 each.

Save $1.50 each over the regular rate of $4 a year, in U. S.

Use form below for group of **Four or more** subscriptions and mail with remittance to MODERN LITHOGRAPHY, Box 31, Caldwell, N. J.

(Use your letterhead for additional issues at this dollar-saving price)

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   City ..... Zone ..... State .....

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   Street ..... Company .....
   City ..... Zone ..... State .....

3. Name ..... position or title .....
   Street ..... Company .....
   City ..... Zone ..... State .....

4. Name ..... position or title .....
   Street ..... Company .....
   City ..... Zone ..... State .....

5. Name ..... position or title .....
   Street ..... Company .....
   City ..... Zone ..... State .....

6. Name ..... position or title .....
   Street ..... Company .....
   City ..... Zone ..... State .....

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TALE ENDS

ONE of the cleverest—and most effective— promotions we have seen in a long time is currently being put out by Oxford Paper Co. The series is entitled "Fact and Legend" with each mailing including some interesting keepsake, along with a discussion of the fact and legend associated with it. So far there have been a genuine indian arrowhead, a gold painted spike, a reproduction of an

Egyptian tablet, and a reproduction of an ancient Greek coin.

All sorts of interesting historical facts,—along with the sales messages about Oxford's new line of North Star coated papers,—make the mailing pieces especially attractive.

•

For instance, we learned from the latest piece that the Phoenicians introduced the North Star to the Greeks, that it was Herodotus, the Greek historian, who eulogized the postal system (perhaps a bit too optimistically) in 500 B. C. with the oft quoted words, "Neither snow nor rain nor heat nor gloom of night stays these couriers from the swift completion of their appointed rounds," and that seafaring men did not always use the North Star as their navigational guide — other constellations having been used at one time by the Phoenicians.

•

The Oxford promotion shows what can be done when a company does some really thorough planning before launching a campaign.

Brown & Bigelow lithographed a handsome premium for Flex-Vac Co., recently. It's a full-color, spiral bound cook book, featuring Arlene Francis in various poses, telling how she whips up this and that in no time at all. The 6 x 9" book is being offered by Flex-Vac as a bonus to shoppers who buy meats, cheeses and other foods in the company's packages. In addition to illustrating the fine quality of offset being turned out by B & B, the cook book confirms a notion we have harbored for quite a while—it's possible to get too much of Arlene Francis.

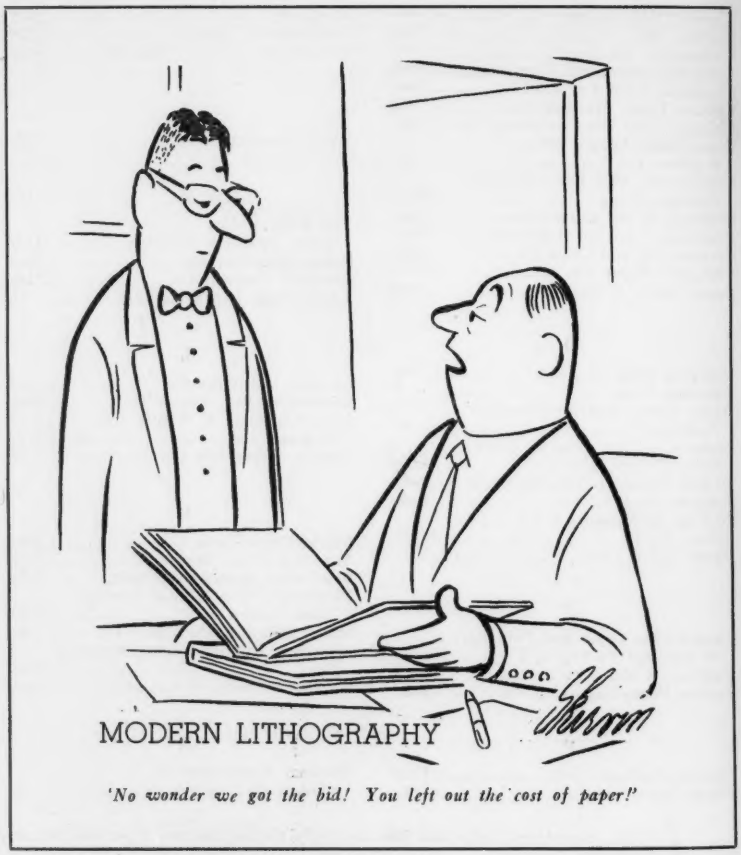
•

A company directive that the special summer attire for salesmen would be Bermuda shorts and knee-length stockings last month stirred General Printing & Lithograph Co. salesmen to carry out the "strike" pictured above. According to the Los Angeles Co.'s public relations firm, the salesmen (from left) Peter Weintraub, Gene Kimbrough and Tom Wood, Jr., protested variously that "The shorts are unfair to bowlegs, knobby knees, sunburned kneecaps."

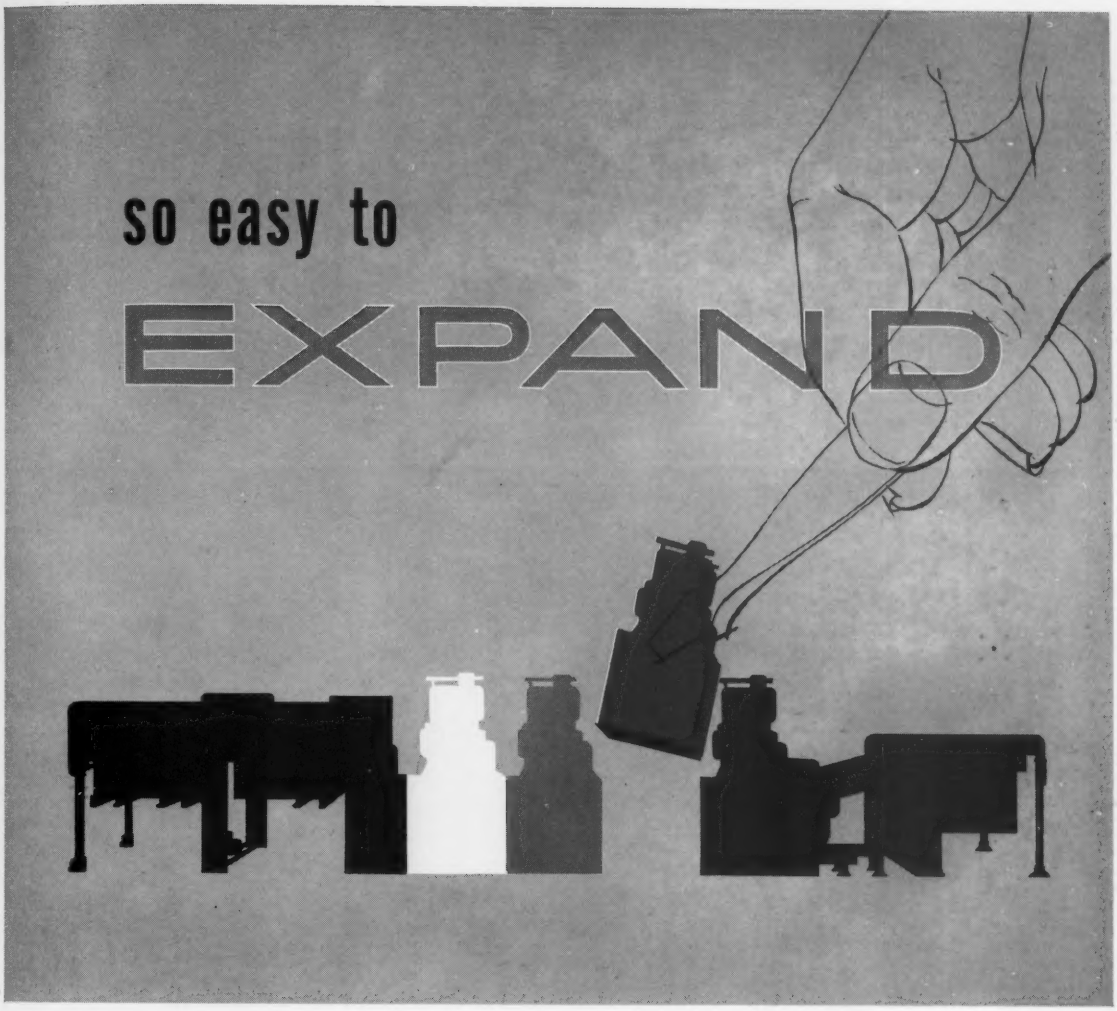
•

According to the press release, management compensated for these indignities with "modesty pay."

Apparently the strikers' sign painter joined with them in a sympathy strike; as witness the spelling of "inmodest."



'No wonder we got the bid! You left out the cost of paper!'



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The more than 100 units successfully added to large Miehle rotary letterpress and offset presses **in the field** are positive proof that Miehle Add-A-Unit Construction works. And it works in both directions . . . should the need ever arise, you can actually make two presses where only one existed before (convert a Miehle 6-color into two 3's, for instance). Here is large equipment flexibility available from no other press manufacturer!

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THE MIEHLE COMPANY Division of Miehle-Goss-Dexter, Inc. Chicago 8, Illinois

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Your specialty may be forms printing, yearbook printing, metal decorating, poster projection, or general offset. But, your business is professional lithography...turning out finer work faster and more profitably.

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Size Range	To 77"	To 60"	A plate to fit every offset press
Gauge	.005 to .020 (10% to 30% heavier, size for size)	.005 to .012	Easier to handle. No stretch, tear or kink
How Made	Flat sheet	Continuous web	Sheet permits wider flexibility of sizes and styles for user
Surface	Lightly etched (Micro-Surfaced)	Perfectly smooth or brush grained	Advantages of both smooth and grained plates
No. of guaranteed printing sides	Two	One	Double economy

HARRIS INTERTYPE CORPORATION

Lithoplate, Inc.

A Subsidiary of Harris-Intertype Corporation

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